



MIDLANDS ENGINE

FROM PANDEMIC TO ENDEMIC: Covid-19 in retrospect and prospect in the Midlands Engine

OCTOBER 2022

60 SECOND SUMMARY



The Covid-19 virus, caused by SARS-CoV2, produced a global pandemic that lasted more than two years and caused more than six million deaths. The Midlands Engine has explored the responses to the pandemic of 10 leaders of organisations in a range of sectors. The research aimed to provide advice for action in the process of transition to Covid-19 becoming an endemic disease in the wake of the government removing its pandemic 'Working Safely' requirement for employers to explicitly consider COVID-19 in their risk assessments in February 2022.

The pandemic imposed significant costs on organisations, including reorganising their workplaces and infrastructure, implementing work-at-home protocols, and paying business rates for under-utilised assets. However, some organisations found several benefits from the pandemic, including improved productivity and a transition to a digital working process.

Leaders interviewed identified several common themes for moving their organisations from pandemic mode to an improving but still uncertain environment. These included making workplaces safer, encouraging employees to work from home if they are unwell but still capable of work, and ensuring the workplace was well ventilated. Several organisations said that lockdowns had more impact on staff than Covid infections - through the problems created by lockdown rules and adjusting to working from home or enforced social distancing in the workplace for 'key workers' - but that as restrictions were removed, staff absences increased: as employees reduced social distancing so they became more exposed to the virus. The organisations interviewed had introduced a range of strategies to adapt to a working regime where the transmission of Covid-19 remained a risk. Strong intervention by the government is unlikely in the advent of a resurgence in Covid-19 infections.

Organisations should continue to follow current practices in the event of a significant increase in Covid-19 infections, including maintaining safe workplaces and encouraging workers to work from home and being prepared to reverse the winding down of their pandemic protocols if necessary. As hybrid working becomes a normal practice, high levels of digital connectivity resilience and cybersecurity are new core competences for all organisations. The process of learning and adaptation that has taken place since early 2020 means that institutions are better suited to manage a turn for the worse.



SUMMARY



Introduction

The Covid-19 virus, caused by SARS-CoV2, had a level of transmission and severity sufficient to cause a global pandemic, which lasted more than two years, and by the middle of 2022 had produced over 550m cases of infection recorded globally, and more than six million deaths.

In an endemic state, viruses circulate within the population, but with a reduced risk of critical public health emergencies. It is unclear whether SARS-CoV-2 will in time take its place as a seasonal endemic disease, or whether it will exert a more significant burden on human health.

The Covid-19 pandemic continues to present challenges to public institutions, health services, local authorities, government agencies and other bodies, as well as businesses and the wider public, but the perceived impacts are less critical than at the earliest stages of the pandemic.

The Midlands Engine has explored the responses of a small sample of key institutions to the pandemic. The research aimed to provide advice for action in the process of transition to Covid-19 becoming an endemic disease and reflect on how these institutions responded and adapted to the pandemic.

Interviews were conducted online between March and June 2022 with 10 leaders of organisations in a range of sectors and focused on how the pandemic brought about institutional change and the challenges of conducting business and managing a labour force during a public health crisis.

This report focuses on the key themes organisations recognised as being important in moving forward with Covid-19 as an endemic disease and explores the relative costs and benefits in the pandemic stages of the disease.

SUMMARY

Living with Covid-19

The Government indicated in February 2022 that it was removing its pandemic 'Working Safely' requirement for employers to explicitly consider COVID-19 in their risk assessments. This marked the next stage in the government's roadmap to move away from pandemic restrictions. All future scenarios envisaged by the government assumed that a more stable position will eventually be reached over several years, with the most likely scenario at the time of writing is volatility and uncertainty about the rate of infections.

Although most interviewees agreed that Covid-19 would become endemic in 2022, some informants remained highly sceptical, especially those who worked in healthcare organisations, largely because infection rates remain stubbornly persistent, and were having to confront this in their day-to-day working environment. A key motivation for wanting to move on from the pandemic was an acute awareness of the long-term social and economic damage caused by the lockdown phases of the pandemic.

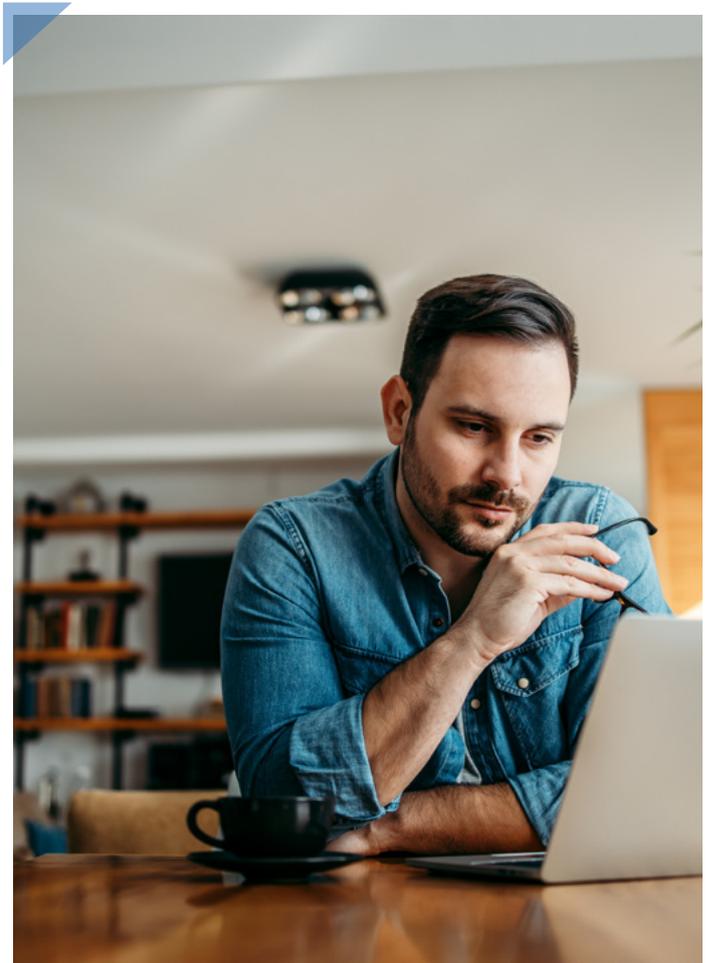
The pandemic had significant **costs** to organisations, especially in relation to property and infrastructure, which were either reorganised or reconfigured in line with work-at-home protocols. Some organisations were caught in a dilemma of having to pay business rates for under-utilised assets. As the pandemic progressed, organisations that remained working in place faced additional and ongoing costs for the consumables needed to lower the risk of virus transmission in the workplace, and to facilitate their office staff working from home with efficient and secure communication connections. **The main costs reported were a perceived reduction in productivity, a loss of organisational culture, a decline in networking as well as problems with staff recruitment and retention.**

The leaders interviewed identified several **benefits** from the pandemic, **including a transition to a digital working process with benefits being accrued through hybrid working, such as greater staff satisfaction and an ability to reduce office space.** Leaders of organisations that could easily shift to hybrid working noted **improved productivity.** Moreover, although some organisations found recruitment during the pandemic more difficult, the shift to working from home meant that employers could recruit more widely for new staff. The pandemic may have provided an opportunity to manage office space more carefully, rework desk ratios, and encourage workers to be more cautious about going to work when unwell.

Leaders interviewed identified several common themes for moving their organisations from pandemic mode to an improving but still uncertain environment.

Government leadership and guidance were essential in setting out what organisations should do in an environment of continuing uncertainty. Some organisations explored additional data, but all relied on the government to set the parameters of standard operating procedures.

Organisations saw **making workplaces safer** as important for limiting the risk of infection, reducing the risk of staff shortages, while also addressing concerns that some employees might have about returning to work. To reduce the risk of virus transmission at work, employers should encourage employees to work from home if they are unwell but still capable of work. One measure advocated to reduce the risk of infection at work was to ensure workplaces were well ventilated.



Hybrid working has become more popular in the workplace because of the pandemic and has brought many benefits, including higher levels of worker satisfaction and greater organisational resilience. Many employees were attracted to working from home after the pandemic, especially in sectors that adapted well to a hybrid working system. This has required many organisations, especially those that previously had no experience of off-site working, to increase their levels of digital connectivity and cybersecurity to prevent data and information breaches.

Some organisations **reassessed their use of workspaces**, including increased use of 'hot desks' and flexible hubs, and were reevaluating their space demands and needs. Some organisations have seen the growth of hybrid working as an opportunity to reduce their space demands and costs, and to develop more innovative ways of occupying space.

Several organisations suggested that they had been more impacted by the lockdowns imposed to prevent Covid-19 transmission than by Covid infections among their workers, but that as restrictions were reduced, illness and staff absence increased. Most respondents played down the impact of Covid outbreaks among their employees, citing social distancing rules and lockdowns.

There was a recognition that as regulations and restrictions were removed, there was a greater risk of employees getting ill. Some respondents argued that social controls remained important.

Scenario Response

The 10 organisations interviewed had introduced a range of strategies to adapt to a regime where the transmission of Covid-19 remained a risk. The UK Government's plans for Living with Covid-19 set out four possible scenarios over 2022 and 2023, including a resurgence in Autumn/Winter 2022/23 with low levels of severe disease, a seasonal wave of infections with comparable size and realised severity to the current Omicron wave, and a large wave of infections.

The most likely outcome of the Covid-19 virus outbreak in the UK was seen to be scenarios that were either moderately optimistic or moderately pessimistic (see Figure 1, page 12), although the government stressed that there was only a limited degree of confidence about such speculations. If all but the most optimistic scenarios came to pass, organisations might adopt measures to mitigate transmission, as the government might promote of FFP2/FFP3 masks in indoor public spaces and on public transport, but strong intervention is considered unlikely at this stage.

Given that government direction is unlikely in the event of a significant increase in Covid-19 infections, organisations should continue to follow current

practices. This includes maintaining safe workplaces and encouraging workers to work from home for part of the week, although noting that the shift to smaller offices/shared spaces needs to be managed carefully to prevent infection control problems.

In addition, organisations should be prepared to reverse the relaxation of the Covid-19 control protocols if necessary.



Lessons learned

The process of learning and adaptation that has taken place since early 2020, such as the extensive implementation of hybrid working and improvements in digital connectivity and cybersecurity to facilitate such working, means that institutions are better prepared to manage any turn for the worse in the process of Covid-19 becoming an endemic disease.

It was clear that some organisations had identified the emergence of a crisis but had responded to it with different levels of urgency. As more evidence accumulated, leaders began to realise that responding to Covid-19 would be a significant challenge, yet there was also a hope that the fears were overblown and hyperbolic.

Confidence in the UK's pandemic preparation plans, which were often vaunted as being world-leading, were found to be misplaced.

The failure of the SARS 2 virus to behave like flu, combined with subsequent failures to source key materials, instilled a lack of trust in the pandemic planning process. The self-resilience and ability to problem-solve that many organisations developed during the pandemic is likely to become an important asset in the medium term given the uncertainty in the wider macroeconomic environment.



FROM PANDEMIC TO ENDEMIC: COVID-19 IN RETROSPECT AND PROSPECT IN THE MIDLANDS ENGINE

1. INTRODUCTION

Covid-19, a respiratory and vascular disease caused by SARS-CoV2, a novel coronavirus first identified in China at the end of 2019 (Morens, Daszak, and Taubenberger 2020), was discovered to have a level of transmission and severity sufficient that within three months the World Health Organization (WHO) announced the arrival of a global pandemic. In short order, many countries went into lockdown, with restrictions placed on movement and social contacts that brought unprecedented disruptions to the economy and society, with significant and long-lasting implications (Calvert and Arbuthnot 2021; Lancaster 2021; Tooze 2021).

It is now more than two years on from the official start of the pandemic. By July 2022, WHO data reported that there have been over 550m cases of infection recorded globally, a cumulative total of more than six million deaths, with a worldwide mortality rate of 1,500 deaths per day (of individuals with a Covid-19 infection).¹ In the UK, there have been almost 23m reported cases of Covid-19 infection, with nearly 200,000 deaths.² The virus continues to circulate although, due to higher levels of population immunity - a result of both vaccination programmes and growing rates of prior infection³ - combined with the legacy effects of behavioural changes, most countries have set out and enacted plans for living with Covid-19 as an endemic disease.

In an endemic state, communicable diseases reach a steady state of transmission, where cases no longer increase exponentially. Infection still circulates within the population, but with a reduced risk of critical public health emergencies. A number of viruses exist in an

endemic state, including four main coronavirus strains (variants of 'the common cold') and two main influenza viruses.

Balloux et al. (2022) argues that while there is a broad consensus among

epidemiological experts that SARS-CoV-2 will in time take its place as a seasonal endemic disease, 'there is limited consensus in the scientific community about what 'endemic SARS-CoV-2' entails in terms of future morbidity and mortality, both upon infection and through long COVID" (page 12).

Whether Covid-19 'will in time become a fifth 'common cold HCoV' or exert a more significant burden on human health comparable to, or even higher than, seasonal influenza will largely depend on the intrinsic virulence of future viral lineages' (Balloux et al., 2022, page 13). The route to an endemic state is unclear both in the severity of the virus and duration of the journey which will be determined by further virus mutations (immune escape) and the unknown risk of post-viral reactions (or 'Long Covid') (Crook et al. 2021).

Currently within the UK, the number of Covid-19 cases remain a concern, but the perceived impacts are less critical than at the earliest stages of the pandemic, as measured by the number of hospital admissions with severe illness and deaths recorded with infection. Nevertheless, due to the high level of uncertainty, the Covid-19 pandemic continues to present significant challenges to public institutions, health services, local authorities, wider government, and other bodies, as well as businesses and the wider public.

We will be living with Covid for some time, perhaps indefinitely, adapting to the effects of illness and even the possibility of future restrictions and pressure on services (such as the emergence of new variants, for example, as the virus continues to evolve). **While temporary reactive responses have been deployed to manage Covid-19, its eventual transition to an endemic disease suggests the possibility for the permanent provision of response structures in public institutions, businesses and everyday life.**

Given that the twenty-first century has already seen the emergence of three novel coronaviruses (SARS-CoV in 2002, MERS-Cov in 2012, and SARS-Cov-2 in 2019) the risk of near-future public emergencies caused by a new infectious disease cannot be ruled out.



Objectives

The Midlands Engine – in the context of its leadership, coordination and facilitative role within the region – has sought to explore the responses of a small sample of key institutions based in the East and West Midlands to determine if it is possible to identify good practices being adopted by leading organisations as the UK seeks to live with COVID-19 as an endemic disease. The objective was to support public institutions, businesses and individuals to integrate more permanent response structures, behaviours and levels of resilience into their activities that would support effective endemic disease management and provide examples of how other organisations had adapted to change. The research sought to provide advice for action in the process of transition to Covid-19 becoming an endemic disease. The research also sought to reflect on how these institutions responded and adapted to the pandemic.

Ten interviews were conducted with senior decision-makers in leading institutions within both the for-profit and non-profit sectors across the Midlands Engine to explore how they navigated the pandemic stage of the crisis and how they have prepared for living with Covid-19 as an endemic disease.

Methodology

Interviews were conducted between March and June 2022 via Microsoft Teams. The interviews were each of up to an hour in duration, recorded and transcribed, and subsequently analysed. Interviews were conducted online under conditions of strict confidentiality, to allow informants to speak openly and frankly, to gain insights into the ways in which the pandemic brought about institutional change, the challenges of conducting business and managing a labour force during a public health crisis, and their responsiveness to public health guidance and wider government restrictions and support. Individuals and firms are not identified but instead designated to broad economic sectors. A broad range of interviewees were sought. Due to issues of availability, the respondents revealed a bias towards the non-profit sector (6/10), with four organisations being primarily concerned with healthcare, three with advanced manufacturing and one each on consultancy, higher education and local government. The respondents were predominantly male (8/10) (Table 1).

Table 1: Interviewees by gender, economic area and focus

Respondent #	Gender	Economic area	Focus
R1	Male	Consultancy	Non-profit
R2	Male	Local Government	Non-profit
R3	Male	Healthcare	Non-profit
R4	Male	Advanced Manufacturing	For-profit
R5	Male	Healthcare	Non-profit
R6	Male	Healthcare	Non-profit
R7	Female	Healthcare	For-profit
R8	Male	Higher Education	Non-profit
R9	Female	Advanced Manufacturing	For-profit
R10	Male	Advanced manufacturing	For-profit

¹WHO Coronavirus (COVID-19) dashboard: <https://covid19.who.int/>. Note that not all these deaths will necessarily have been caused directly by coronavirus infection leading to disputes about the 'real' death rate. For example, in the UK, Covid-related deaths are recorded as those that occur within 28-days of a positive Covid-19 test, which means that an unknown number of the deaths recorded by Covid-related would be more accurately described as 'with Covid' rather than 'from Covid'. For a discussion see John Newton's 2020 blog on the UK Health Security Agency website: <https://ukhsa.blog.gov.uk/2020/08/12/behind-the-headlines-counting-covid-19-deaths/>

²Deaths with Covid-19 on the death certificate: see <https://coronavirus.data.gov.uk/details/deaths>

³Although there are concerns that the Omicron variant might not generate an immune response, so that cumulative infections may not lead to herd immunity, creating the possibility of repeated waves of infection and re-infection, combined with further virus mutation (Davis 2022).

2. LIVING WITH COVID-19



In February 2022, the Government published Covid-19 Response: Living with Covid-19.⁴ The document indicated the government's intent to remove its pandemic 'Working Safely' requirement for every employer to explicitly consider COVID-19 in their risk assessments.⁵ While stating clearly and explicitly that 'the global pandemic is not yet over', the announcement signalled the next stage in the government's roadmap to move away from pandemic restrictions (Table 2). Responsibility was to be placed less on the government and its enforcement of the pandemic through regulation and law, and more on the responsible behaviour of employers and individuals. A key principle of this stage of pandemic management was to encourage safer behaviours through public health advice while at the same time removing restrictions, effectively seeking to normalise Covid-19 as an additional, if still unpredictable, endemic illness alongside the viruses currently circulating.

In making these changes the government urged caution, indicating that the transition to endemicity may take several years, and recognised that there may be a need for greater intervention if a new Variant of Concern (VoC) with strong immune response were to emerge in the wake of the currently dominant Omicron strain and that proved to produce higher rates of death and illness.

Drawing on academic advice from the Scientific Advisory Group for Emergencies (or SAGE),⁶ the government presented four scenarios for the course of Covid-19 over a 12-18-month period from February 2022 (see Figure 1):

All scenarios assume that a more stable position will eventually be reached over several years. In the 'reasonable best case' there may be a comparatively small resurgence in infections during autumn/winter 2022-23, and in the 'reasonable worst case' a very large wave of infections with increased levels of severe disease. The 'optimistic central' and 'pessimistic central' scenarios are considered the most likely (HM Government 2022, page 6).

The next section presents the result of the analysis of interviews with leaders in 10 key Midlands Engine institutions in the first part of 2022 as the regulations that were put in place to tackle the pandemic were repealed and the UK entered a new phase when it was treated as an endemic virus. The analysis proceeds in three stages: first, reflections on whether Covid-19 has entered an endemic state in the UK; second, the balance between the costs and benefits of the pandemic on their organisations, and; third, and finally, the themes that were identified by the interviewees as important in moving their organisations forward in an environment where Covid-19 retains the potential to cause disruption to health and to the wider business background in which they operate.

⁴See HM Government (2022) <https://www.gov.uk/government/publications/covid-19-response-living-with-covid-19>

⁵The exception were workplaces that worked with Covid-19 where this was still required e.g. laboratories.

⁶See <https://www.gov.uk/government/organisations/scientific-advisory-group-for-emergencies>.

Table 2: Living with Covid-19: regulation reform timeline

Changes by date, 2022

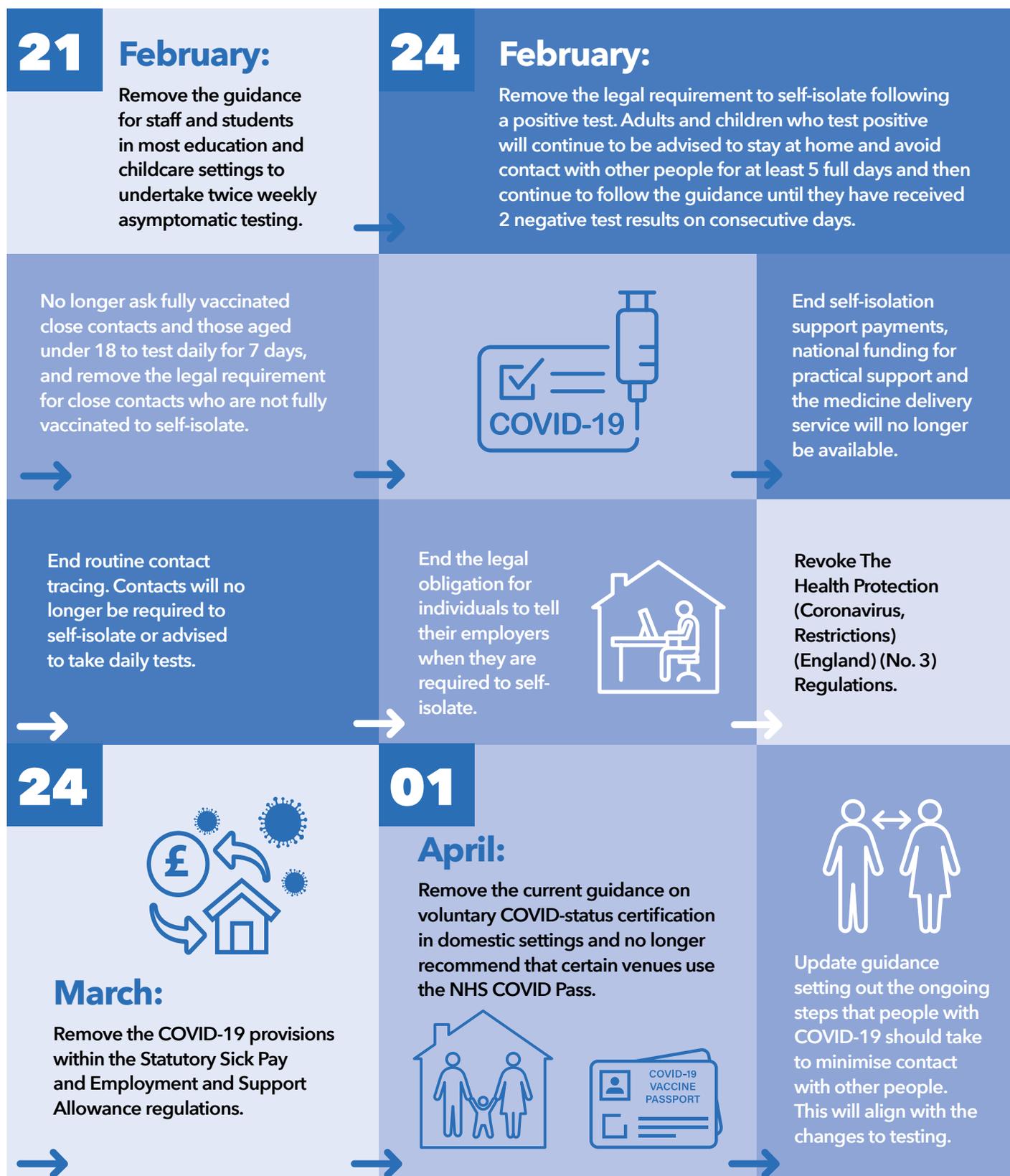


Figure 1: UK government Covid-19 scenarios (source: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1054323/S1513_Viral_Evolution_Scenarios.pdf).

Key: (Relative to Omicron characteristics) ■ Less / better ■ Equal to ■ More / worse

Scenario 1: Reasonable Best-Case

Transmissibility	Immune Escape	Intrinsic severity	Realised severity

Narrative: Further variants emerge but there is no major antigenic evolution, gains in transmissibility or a return to Delta-level intrinsic severity. Minimal further escape from current vaccines and infection-induced immunity. Minor seasonal/regional outbreaks from waning immunity and minor antigenic change. Existing vaccines used annually to boost vulnerable only. Anti-virals have a significant impact on morality and morbidity and remain effective. Years with higher SARS-Cov-2 waves tend to have fewer influenza cases.

Scenario 2: Central Optimistic

Transmissibility	Immune Escape	Intrinsic severity	Realised severity

Narrative: Increasing global immunity leads to generally lower realised severity. Waves of infection are driven by cycles of significant waning immunity and/or the emergence of new variants either from Omicron or other lineages. The general pattern is of annual season infection with good and bad years, the latter with high transmissibility and intrinsic severity similar to Delta. Severe illness and mortality largely limited to vulnerable, elderly and those without prior immunity. Regularly updated vaccines given annually to the vulnerable and to others in bad years. Voluntary protective behaviours are high during waves. Some countries impose NPIs (e.g. face coverings) in bad years. Anti-viral resistance begins to appear and limits use until combination therapies are available.

In the next 12-18 months: Seasonal wave of infections in Autumn/Winter with comparable size and realised severity to the current Omicron wave.

Scenario 3: Central Pessimistic

Transmissibility	Immune Escape	Intrinsic severity	Realised severity

Narrative: High global incidence along with increasing population immunity drives unpredictable emergence of variants for many years, with a combination of enhanced immune evasion and greater transmissibility relative to Omicron, sometimes more than once per year and/or with intrinsic severity similar to Delta in bad years. Existing immunity and updated vaccines continue to provide good protection against most severe outcomes. Although no more severe, repeated waves of infection cause widespread disruption with disproportionate impacts in some groups, e.g. children in education. Widespread annual vaccination with updated vaccines. Anti-viral resistance is widespread. SARS-CoV-2 waves do not reduce influenza; SARS-CoV-2 waves overlap leading to further burdens on healthcare. Limited voluntary protective behaviours during waves. Some countries impose more significant NPIs in bad years.

In the next 12-18 months: Emergence of a new variant of concern results in large waves of infections, potentially at short notice and out of Autumn/Winter. However, severe disease and mortality remain concentrated in certain groups (and lower than pre-vaccination), e.g. unvaccinated, vulnerable and elderly.

Scenario 4: Reasonable Worst-Case

Transmissibility	Immune Escape	Intrinsic severity	Realised severity

Narrative: High global incidence, incomplete global vaccination and circulation in animal reservoirs leads to repeated emergence of variants, including through recombination (exchange of genetic material between different variants infecting the same cell). Not all variants are equally challenging, but some show significant immune escape with respect to immunity from vaccines and prior infection. Unpredictable changes in how the virus causes disease alters the rate and age of the profile of severe disease and mortality, with increased long-term impacts following infection. Widespread annual vaccination with updated vaccines is required. Anti-viral resistance widespread. Voluntary protective behaviours are largely absent and/or a source of societal conflict. Significant use of NPIs is needed, especially when new variants outpace vaccine updates (and/or testing technologies fail).

In the next 12-18 months: This leads to a very large wave in infections with increased levels of severe disease seen across a broad range of the population, although the most severe health outcomes continue to be felt primarily among those with no prior immunity.

ENDEMIC PRACTICES: ENDEMICITY OR THE PANDEMIC'S LONG TAIL?

Although many respondents agreed that at some point in 2022 Covid-19 had entered an endemic state, some informants remained sceptical, especially those who worked in healthcare organisations.

One reason for this is that rates of infection remain stubbornly persistent. For example, at the time that the government announced a change in Covid-19 regulations to recognise it as an endemic disease, ONS survey data estimated that rates of infection in the four home nations were as follows: England, 1 in 25 people had tested positive for infection within a seven-day period; Wales 1 in 30; Northern Ireland 1 in 14; Scotland 1 in 14. While in the months that followed rates declined, by mid-July, these had returned to those of the late winter: 1 in 25 people in England; 1 in 20 in Wales; 1 in 19 in Northern Ireland, and; 1 in 17 in Scotland.⁷

"I'm not convinced we're in going into 'endemic' at the moment ... [Until we] stop getting these waves of infection globally, I'm not sure you can call it that."

(R1, HEALTHCARE)

"We're still on the ... peripheries ... it's still bubbling along. So if you think about previous pandemics ... 1918, flu ... couple of years for waves, but then actually had a long tail."

(R3, HEALTHCARE)

"I don't know whether we have reached an endemic stage. But we've moved on, for better or worse, to a new phase at least, and I think eventually ... we will reach a point where COVID becomes very predictable ... much more along the lines of what seasonal flu does. I suppose that's the kind of the working definition I have of endemicity."

(R5, HEALTHCARE, EMPHASIS ADDED)

There was a recognition that the virus has not yet stabilised to the extent so that its path is more or less predictable – as with influenza, for example – and so has the capacity to do more harm to health. There was also an acknowledgement that ways of living with Covid-19 needed to be progressed, because as well as the individual injuries and bodily damage emanating from infections and illness, there were also the broader social injuries caused by lockdowns and social distancing. This was noted not only in the healthcare professions but much more broadly:

"I don't think you'll get any NHS leaders saying we shouldn't just be living with it because we need to ... [otherwise] the societal impacts are huge ... as well as the economic impacts. But ... the challenge for ... the health service is, how do you operationalize living with COVID?"

(R6, HEALTHCARE)

"This has to be where we have to live with the virus. It can't be about lockdowns anymore ..."

(R4, ADVANCED MANUFACTURING)

One of the motivations for wanting to move on from the pandemic was an acute awareness of the damage caused by the lockdown phases of the pandemic witnessed first-hand by the interviewees. The next section of the report deals with an assessment of the costs borne by our respondents' organisations, followed by an assessment of some of the benefits that may have emerged.



⁷See ONS, Coronavirus (covid-19) Infection Survey, UK: 24 June 2022: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsand-diseases/bulletins/coronaviruscovid19infectionsurveys/pilot/24june2022#main-points>

PANDEMIC COSTS AND BENEFITS

The pandemic clearly had significant and immediate **costs** to organisations, of which the most immediate were financial. As the UK went into lockdown, organisations were either faced with implementing work-at-home protocols or, if engaged in essential work, having to reorganise the workplace to make it as safe as possible for their employees during a pandemic.

A major problem identified by our respondents was discovering that they were now in possession of under-utilised assets, especially property and infrastructure. A leader of a consultancy argued that, like many firms, they were caught in a dilemma, having

“Lock[ed] down our offices and not using them but having the ongoing cost and business rates for that, that was the biggest thing for us ... Incurring that cost without actually being able to use the facility.”

(R1, HEALTHCARE)

Organisations such as this could still operate, of course, by mobilising their employees to work from home. However, advanced manufacturing firms were faced with a different challenge: they could continue to utilise their workplace assets, as they were classed as undertaking essential work, but only after embarking upon expensive and time-consuming processes to put mitigations in place that would limit virus transmission:

“The biggest costs were the fact that we cleaned the work environment for 10 minutes or 15 minutes every shift and we didn’t [manufacture] ... in that time, so that was a huge cost. We also had [employees] putting screens up ... That was a big cost. So we’ve had to pay for an extra 12 people every shift ... that was the biggest cost for us. It’s manpower.”

(R9, ADVANCED MANUFACTURING)



As the pandemic proceeded, those organisations that remained working in place faced additional and ongoing costs for consumables needed to lower the risk of virus transmission, such as masks, wipes, hand sanitizer, etc.

Moreover, these institutions were the least likely to have existing working from home or hybrid working protocols before the pandemic, so the movement of their office staff to work from home meant additional costs. Items such as laptops, software licences and new equipment all had to be purchased rapidly to enable their employees to work effectively from home. One leader in an advanced manufacturing firm explained the urgency through an account of a meeting in which he was told he needed to free up money for urgent investment:

“We need to buy 250 [Microsoft] Teams licenses!” We didn’t have them. And of course the IT companies knocked the prices up through the roof.”

(R4, ADVANCED MANUFACTURING)

Additional costs were then incurred in efforts to iron out emerging problems with functionality as workers bedded in to their new working environments:

“... You can give somebody a laptop ... but if they haven’t got the wi-fi speed at home to download that document - we had so much of this where people didn’t have the infrastructure at home! They didn’t have a printer. They didn’t have a scanner, so you’re finding that ... people were coming on site for half a day, getting it all the documents printed out and things like that going home, reviewing them, coming back, you know, with all of that stuff in the early days.”

(R4, ADVANCED MANUFACTURING)

Problems with connectivity were reported in several organisations, as were concerns about online security which required additional investment in the early days of the lockdown:

“We came up with problems with bandwidth ... the bandwidth of the business cables coming in to be able to cope with everyone going online globally - because we’re a global organization - that was eventually fixed and then we started working from home.”

(R10, ADVANCED MANUFACTURING)

“We’re now looking at how we manage ... cybersecurity much more than we ever did because we’re using much more electronic [documentation].”

(R4, ADVANCED MANUFACTURING)

For firms such as this, this necessary additional activity and investment was widely acknowledged as having a negative impact on **productivity**. But this was also experienced in non-manufacturing settings, such as higher education for example, where key activities were not taking place which were seen to undermine core parts of the central function of the organisation:

"... You can kind of con yourself into thinking ... that you were busy, because absolute task productivity went through the roof, because people were saving commuter times and in terms of the absolute value in the workplace, we went through the roof in terms of task space. But some of the long-term strategic stuff that you do outside of meetings ... there are certain encounters that became more difficult [and lacking]."

(R8, HIGHER EDUCATION))

In other words, while people undoubtedly became very busy keeping organisations running during the pandemic – as in this particular university example, where staff communicated with students and other staff predominantly through online meetings and events – they were not focused as much on long-term core business, such as research and pedagogical development, which would be essential for the long-term productivity of the organisation.

This problem was directly related to another identified cost, which was the **loss of organisational culture**, a **decline in networking** and **staff recruitment and retention problems**. This was identified as a cost across a wide spectrum of institutions, and why having employees working solely and exclusively from home was seen to be an undesirable situation:

"... We are wanting more people back in the office because we have seen a deterioration in collaboration – particularly when we've got new starters. And the ... conversations over the coffee machine where you get bits of information ... you can't get them online."

(R1, CONSULTANCY)

"We've been involved in various different online platforms to do networking virtually and I haven't seen any of them that are actually successful ... I think it works where you've made ... connections you're sort of maintaining ... it works reasonably well, but anything where you're trying to meet new people in a networking environment, those 'happenstance conversations'. Uh, you [just] can't."

(R1, CONSULTANCY)



"We're just very mindful that the labour market is much more competitive and tighter than it was a couple of years ago, that people's salaries went up, but ultimately money is not the only motivator where people work for a specific company. So it's about corporate culture. It's about feeling part of the team and feeling that you are doing something worthwhile and valuable. So there are other compensating factors, but sadly we are mindful that there's a lot of competition for skilled employees."

(R7, HEALTHCARE)

A particularly problematic issue was identified among those employees recruited during the pandemic. It was reported widely that there were particular difficulties in embedding new staff into the organisation culture and immersing them within expected ways of working:

"The biggest issue ... is not living with the endemic, but the recruitment and retention, just getting enough people in front of those that need them."

(R2, LOCAL GOVERNMENT)

A further concern was the implications of the pandemic in driving greater **inequalities of outcome**, both economic and social, especially with regards to physical and mental health. Some organisations had reported experiencing the deaths of colleagues from Covid-19, and a number expressed concern about evidence of lockdown-related family breakdown and emerging mental health problems.

"[we] will need to give more attention nationally and possibly as organisations to the economic support that we give to individuals and households. To make it possible for them to adopt slightly different behaviours in the future than what many of us have lived within in the past. That won't be a problem in the kind of job that I've got, but again, for some of the folks that I was referring to earlier on that's much more of an issue."

(R5, HEALTHCARE)

"... we all know colleagues across the country going through divorce, etc. And that personal cost is there, because of work and job and everything else. You know, the lost relationships, lost time, the lost family, like all of those things. Those personal things. ... Actually, the 'what's important', 'what's better' bit. And we're going to get a large turnover within the next two years: we will get huge churn of the workforce, it's people ... have had enough, all at one time."

(R3, HEALTHCARE)

There was a recognition from these interviewees that they were in a privileged position, as were most of the people in the organisations represented, as they all benefitted from generous sick pay schemes that ensured pay was covered from the first day of illness, and in some cases at the full rate of pay for up to six months. Such schemes are not present in all organisations, or for all employees, who may be dependent on Statutory Sick Pay (SSP), which is used to cover pay when employees are unable to work. SSP is both less generous than employers' sick pay schemes and, outside of the pandemic, not available until the third day of reported illness, which encouraged some of those with illness to work despite being ill as they were unable to afford not to be paid if they were sick (see below).

Set against these numerous and varied costs, the leaders interviewed also identified several **benefits** to emerge from the pandemic, which in many cases was seen to have accelerated changes already ongoing in their workplaces, or in other cases introduced new ways of working. In contradistinction to the problems with productivity and recruitment identified earlier, some institutions considered that the pandemic had brought about an improvement in productivity at work. The enforced transition to a digital working process, as staff were forced to work from home, was seen to have delivered a broad set of economic benefits:

"... people changed their working patterns ... they take breaks, maybe during the daytime, but then work longer hours in the evening. We tend to put a lot of value on employee wellbeing because we work with highly skilled individuals who, in the current climate, can go and get themselves a job anywhere. So we pay a lot of attention to not exploiting people's good will of wanting to work until late in the evening, etc., etc.. So we're very careful to put in place very clear guidelines in terms of expectations. But overall productivity increased ... because the journey time and the impact of traveling back-and-forth to work was removed. It allowed for more optimal time management and energy management ... So we sort of feel that people were delivering more than previously, purely because you don't get that that time where you're trapped driving and getting stressed, road rage or being squashed in public transport with all the associated risks of infection."

(R7, HEALTHCARE, EMPHASIS ADDED)

"Massive leap into a 21st century, 22nd century working ... into actually more efficient productivity..."

(R3, HEALTHCARE)





Similarly, although some organisations realised that recruitment for some jobs was now more difficult, as employees could take advantage of the shift to working from home to obtain jobs that were some distance from their permanent place of residence, the converse of this meant that employers could now recruit from a potentially larger labour pool:

"... we have seen that with the companies we work with, from our recruitment point of view, that it's widened the area that they can recruit people from because ... a lot of them now don't see that the [work] location and where they are [living] is a something that restricts. So if the right person with the right skills is somewhere else. Well, that's fine. You just work out how you work with them ... quite a few ... people within their team that they've not actually met in person. Everything is done virtually and it's working very well."

(R1, CONSULTANCY)

"They live in Harrogate so then they're not going to be able to commute every day. Don't want to come every day, but [we've] actually attracted some talent from elsewhere. So actually, [does] working digital means 'we expect you in the office', or we go with [online] presence and one or two times a month or whatever? Happy to do that. But actually, yeah, that recruitment talent pool, fantastic ... allows people to live in various different locations."

(R2 HEALTHCARE).

Two additional benefits identified from the pandemic were the potential costs savings that working from home facilitated by managing office space use more carefully, and reworking desk ratios, as well as an anticipation that not only does working from home reduce rates of virus transmission rates, but also encourages workers to be more cautious about going to a workplace when ill. These issues are explored in more detail in the next section.

LIVING WITH COVID

A number of common themes were identified by the leaders interviewed as important in moving their organisations from operating in a mode suitable to a pandemic into a still uncertain environment where Covid-19 is in the process of becoming endemic but retains the potential to cause more disruption to health and to the general business background.

Taking the government's lead

Despite the easing of Covid-19 restrictions, leadership and guidance from central government was still seen as essential in setting out to organisations what they should do in an environment of continuing uncertainty. Centrally determined standards during the pandemic were helpful in that local enforcement could be more easily justified, especially among their employees and clients. This did not preclude organisations doing their own research on appropriate standards and behaviours: some organisations, especially in Advanced Manufacturing that were required to operate in place, explored additional data, such as that provided online by the Office for National Statistics, and the World Health Organisation, to determine appropriate workplace protocols. But all organisations relied on HMG to set the parameters of standard operating procedure in regard to infection risk:

"We followed government guidance and we did that all the way through. So [we did] whatever the government said whether it was the Health and Safety we have to do, or when people [should] come in or not come in."

(R4, ADVANCED MANUFACTURING)

Indeed, in some sectors the relaxation of rules in society made operations more difficult, particularly in interactions with the public, either as customers or patients, for example, especially where a failure to use basic levels of infection controls, such as using masks, may have helped reduce virus transmission:

"... it was easier when the national guidelines were consistent ... I know many primary care staff got quite venomous about people not wearing masks [when other] people [were] struggling to get appointments, you know?"

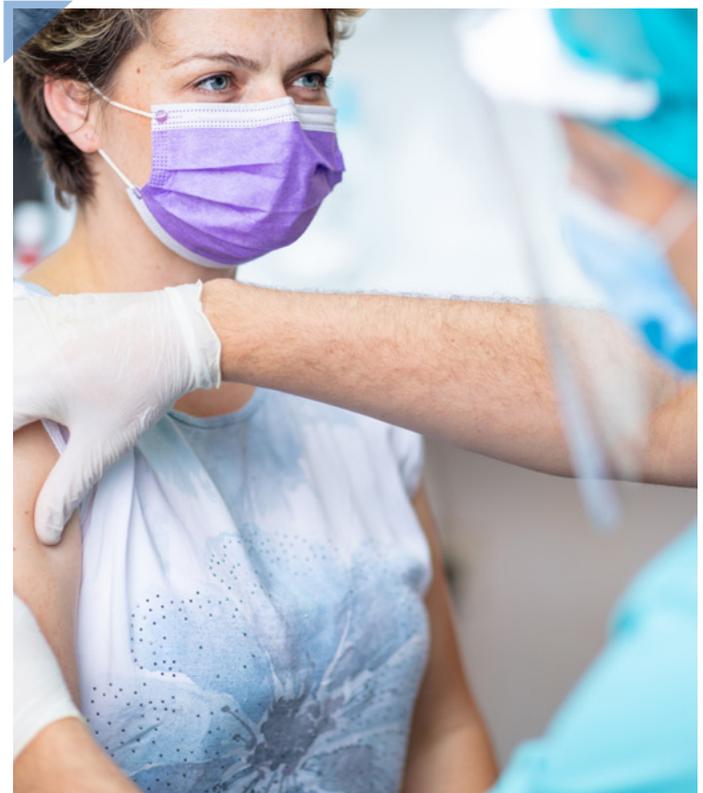
(R6, HEALTHCARE)



Indeed, among some respondents, especially in healthcare, there was a wish that the Government was stronger on encouraging simple measures of risk transmission mitigation, such as mask wearing, in high-risk environments, such as public transport:

My biggest concern around all of it is that ... most people are just going to see that as it's over. ... I know [the Government] has tried to sort of say it's individual or company responsibility ... but it's more around the messaging to me ... I've never seen say wearing a mask on public transport and in those sorts of confined spaces is any ... restriction on my personal liberty."

(R1, HEALTHCARE)



Making workplaces safer

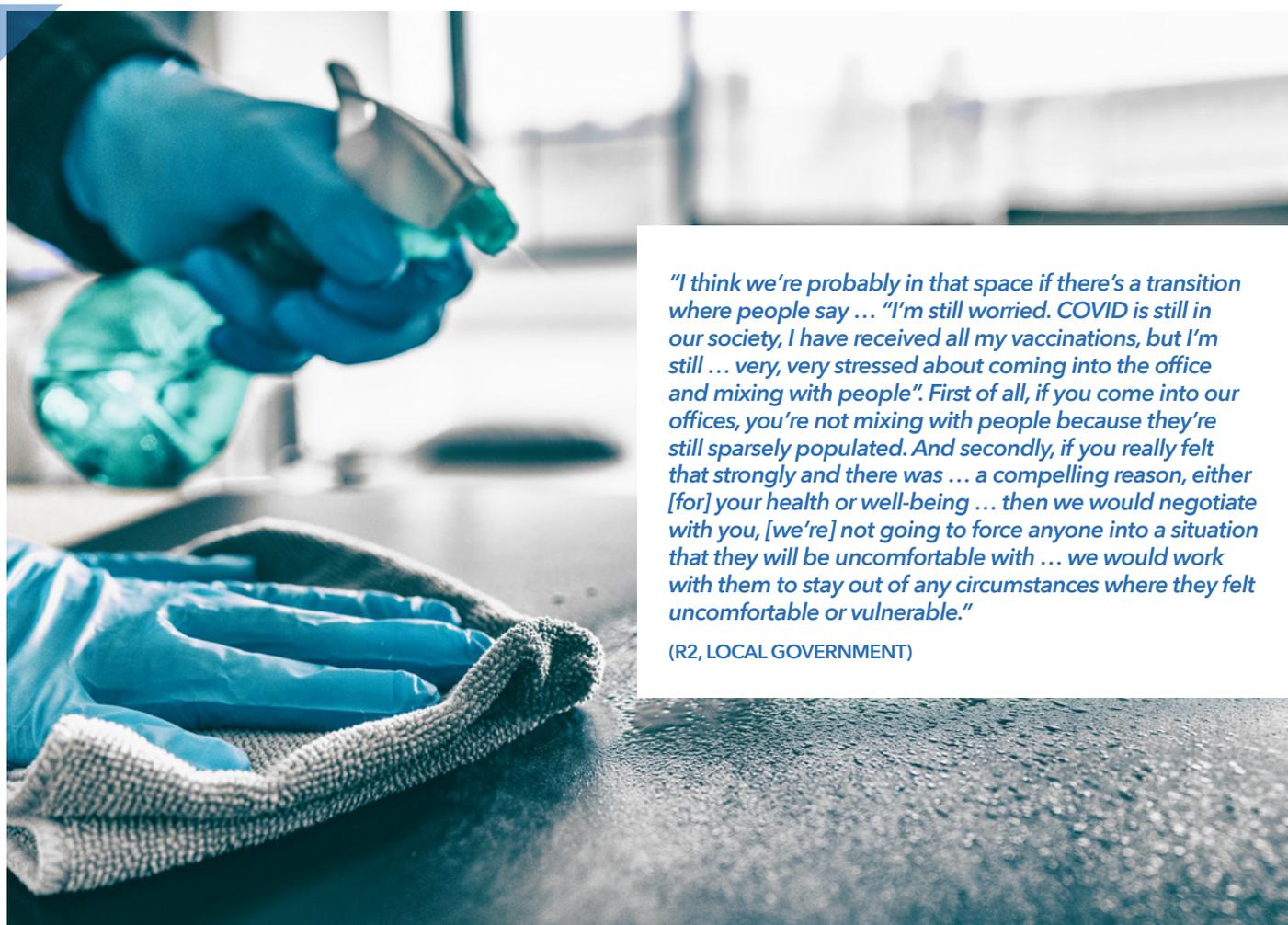
Making workplaces safer, by upgrading work-based hygiene and encouraging Covid-19 safe practices among their employees, was seen as very important by the organisations interviewed. This was for at least two reasons. First, to limit the risk of infection at work so that staff would not become ill, exacerbate staff shortages and further impact the work process. Second, to address concerns that some employees might retain in returning to work, especially if they were considered to have specific health concerns. While organisations reported that those high levels of health anxieties and concerns were expressed only by a small number of employees, such groups could be quite resistant to reassurances about workplace safety:

"There are some people that just simply didn't want to come [back] in. Of course, there's always that part of the workforce."

(R8, HIGHER EDUCATION)



But most organisations indicated their need to engage in individual negotiations and make efforts to come to an accommodation with employees that were hesitant and nervous about returning to the office:



"I think we're probably in that space if there's a transition where people say ... "I'm still worried. COVID is still in our society, I have received all my vaccinations, but I'm still ... very, very stressed about coming into the office and mixing with people". First of all, if you come into our offices, you're not mixing with people because they're still sparsely populated. And secondly, if you really felt that strongly and there was ... a compelling reason, either [for] your health or well-being ... then we would negotiate with you, [we're] not going to force anyone into a situation that they will be uncomfortable with ... we would work with them to stay out of any circumstances where they felt uncomfortable or vulnerable."

(R2, LOCAL GOVERNMENT)

As part of the process of making the workplace as safe as possible, many organisations were focusing strongly on promoting hygiene and an ethic of care for the well-being of co-workers. There was a hope that a culture of 'presentism' that was formerly pervasive, where workers would attend the workplace when clearly ill but felt an obligation to be at work, risking passing their infection onto others, would be replaced by more judicious and considerate behaviour.:

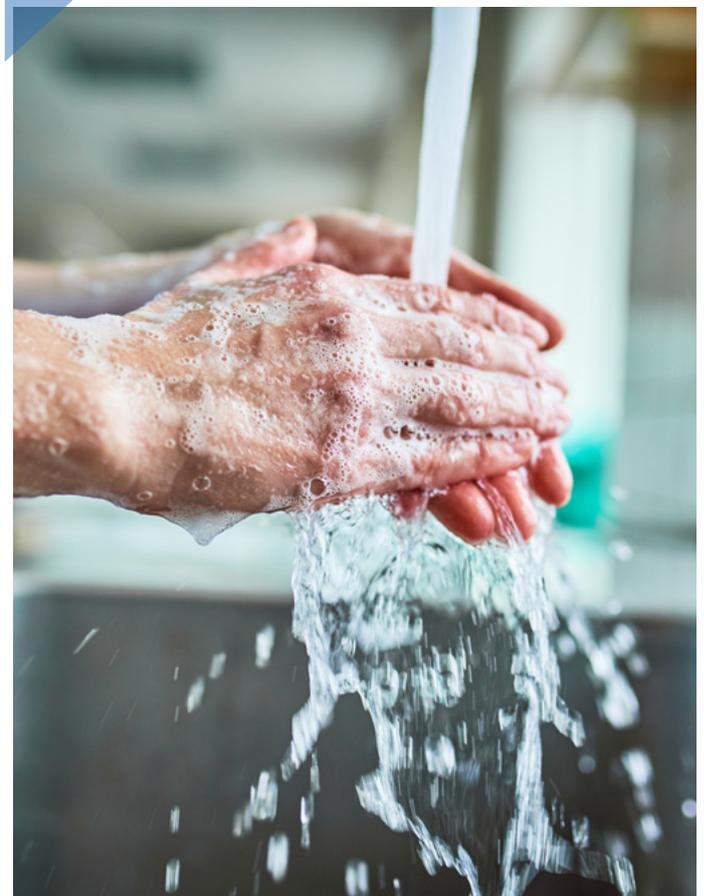
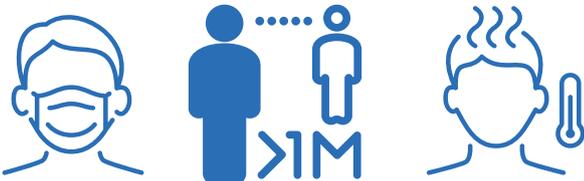
"You shouldn't come to work when you're feeling sick. And ... you should assume everyone is clinically vulnerable. And if you're unwell, you could pass it on to somebody who may not have disclosed to you that they're clinically vulnerable, if that person is genuinely concerned about their health and well-being."

(R2, LOCAL GOVERNMENT)

To be able to accommodate a more preventative approach to virus transmission in general, it was recognised that employers should embrace hybrid working, encouraging employees to work at home if they were unwell but still capable of work. The extent to which some members of the workforce could be exposed to viruses of various levels of severity was outlined by one respondent, who drew from personal experience to stress the importance of infection awareness and need to reduce the possibility risk of virus transmission at work:

"Most of the time I have some symptoms of something or the other because I have three children perfectly spaced in age to bring whatever is going around in the environment. So I have a pre-schooler, a primary schooler, and a secondary schooler. So whichever age group gets hit by something, it will come home ... most of the time [where there is] face-to-face contact, I will wear mask ... if I'm in the office on my own, I'll take the mask off. But a lot of the time, most of the time, I still wear the mask because I'm sniffly, I'm coughing. I don't know if I've got a cold or COVID ... So I'm not going to risk other people's outcomes because I don't want to feel I might have killed someone ... I'll wear a mask; I'll keep my sneezes and my coughs to myself. You know, it's simple. It's low cost."

(R7, HEALTHCARE)



Where work could not be shifted to the home it was recognised that people would come into work with non-Covid-19 viruses and were encouraged to wear masks as a way of cutting down on all virus transmission. In addition, workers were prompted to engage in routine cleaning and sanitation functions wherever possible:

"If I'm going along a handrail, I would think, "Right, OK, I'm going to clean my hands if I'm using it". It's [a] choice, but we are recommending, and we keep promoting this, to wipe the shared areas, use your hand sanitizer, wash your hands ... we've kept masks for various situations, so one if you've got a cough or a cold, please pop a mask on ... if you know you've had COVID and you're coming back, or 'flu or something like that, please wear [a mask] for a week ... if you're going to our occupational health centre, and you're going to be quite close to the health advisor, please, wear one, and finally we are giving [people] a choice to wear them if they want. So masks are still available. ... I always carry a mask and we've asked people to respect other [people's] choices. So you know if you see someone with a mask on, ask them, "Would you like me to put one on?" So, that's what we've kept. So we think there's quite a bit of learning from this and we've kept the desks apart in the office, people like that."

(R9, ADVANCED MANUFACTURING)

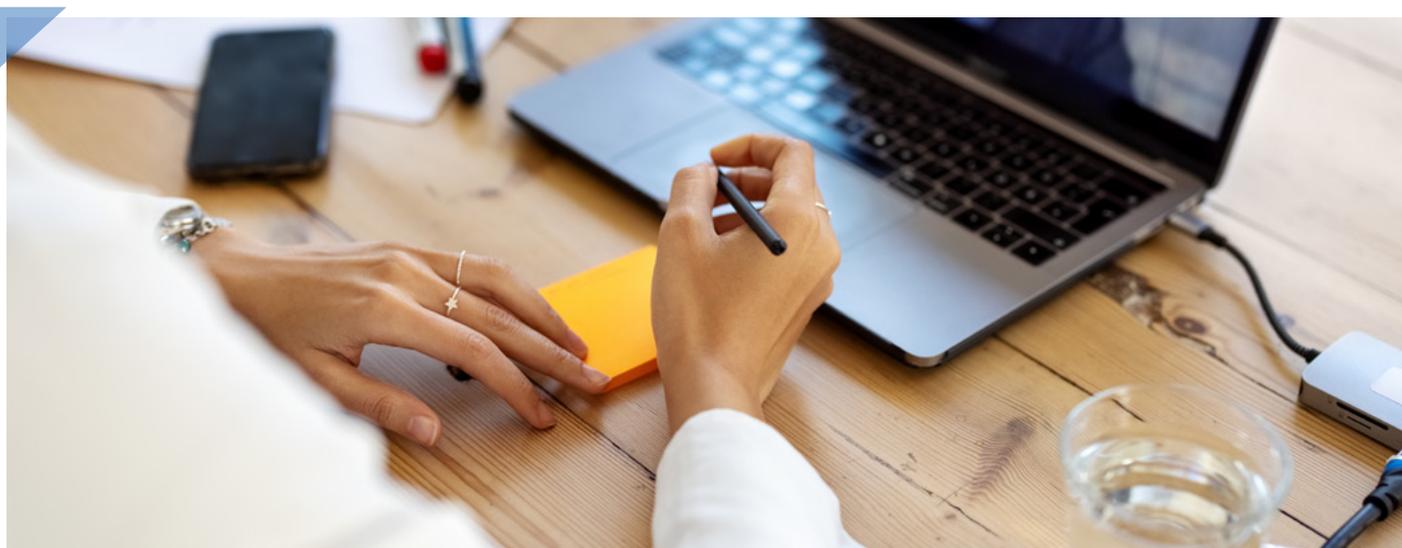
One measure advocated as a way of reducing the risk of infection at work was to ensure the workplace was well ventilated. This emerged as a concern mainly for those organisations where working in place was a non-negotiable part of the business model; that is, Advanced Manufacturing and Higher Education (because of the preference for face-to-face teaching). One manufacturing firm undertook a comprehensive review of the options to ensure that their systems met a suitable standard:

“Our ventilation review ... said we would always use the DHSC guidelines 6C. And actually in the end, we used the World Health Organization information because that was the clearest.”

(R9, ADVANCED MANUFACTURING)

Encouraging hybrid working

The rise of hybrid working - working both from home and at the workplace during a typical working week - has been more of the most significant changes brought about in the workplace as a result of the pandemic (Green et al. 2021; Gupta, Mittal, and Van Nieuwerburgh 2022; Reuschke and Felstead 2020). For those organisations where it was possible, the continuation of hybrid working was seen to be an appropriate solution to the problems of balancing business interest with safeguarding their employees. It enhanced safety at work, while also bringing other benefits, such as higher levels of worker satisfaction and even greater organisational resilience:



Other companies already had high levels of ventilation in place because the nature of their manufacturing process required it but indicated that ventilation would be enhanced and prioritised within new building developments. For employers like universities, it involved testing all their shared teaching spaces across all their buildings:

“When we first started coming back ... there was the guidance around air conditioning systems and making sure that fresh air was coming through, and all of that. But then ... the following year, it sort of ramped up around having ventilation tests and making sure that those were in acceptable tolerances. So, we did that for our buildings ... I think we had a couple of buildings where we were more at risk than others, but we were still in the safe territory.”

(R8, HIGHER EDUCATION)

“Our model is three days off-site and two days in the office for the UK ... people embrace more flexible working, and more hybrid working, and again the sort of the risks of infection of key staff members, we had key people go down with COVID at very unfortunate times. And again, you kind of learn to live with that. So I think it just makes the organization more flexible. It makes people more open minded about taking on tasks which sit outside of their comfort zone or skill set because it becomes a necessity for smaller organizations. We don't have a very deep pockets to bring in a consultant for a week because someone is off work, we just need someone else to pick up slack for that limited period of time. So the hybrid working is retained and that was good. The gains in productivity by not having to travel and the knock-on effect of infection risk, the sort of physical health impact of the commuting, and the costs of it: that was positive for us. So I think that for us as an employer, hybrid work is a major change which we will retain.”

(R7, HEALTHCARE)

That many employees were attracted to this form of work was emphasised by several respondents. Even where employers operated a flexible or hybrid system prior to the pandemic, the realities of enforced working from home over a long period of time has encouraged employers to respond to employee preferences, especially in those sectors that adapted well to a hybrid working system. For example:

"I don't really see that going back to the office full time is going to happen, and certainly from talking with the team here, from an employee point of view, the working from home, not having to do the commuting to [redacted] ... you know it could be an hour travel each way out of their day. Fitting in their home requirements and family life works much better. We already had a ... flexible working policy, but ... now it's very much agile working that we are undertaking ... For some ... if it's a bit busy or [a] difficult home, they'd rather go to an office, but none of them are saying we want to go back to an office [full-time]. So in five days a week, it's probably the most is people talking about maybe two or three days in the office."

(R1, HEALTHCARE)

"School run times ... have become more important to people ... we're ... looking at how [to] adjust around that to support the people to go and pick their children up and do the 3:00 pm school run."

(R1, HEALTHCARE)

However, organisations also recognised that an optimal system of hybrid working balanced individual preferences with operational requirements, and that a number of respondents indicated that their models were still in a process of evolution and development:

"When we moved to our hybrid working ... we had a big piece around learning the lessons of Lockdown 1. I'm being ... more assertive about what the organizational needs were for hybrid working ... rather than the individual thinking, "I never have to come to the office again and everything's on my terms!". So we've had two iterations of our hybrid policy ... to try and get that balance right, which I think actually has been a really useful learning curve for us."

(R8, HIGHER EDUCATION)

In some of the organisations interviewed, this process of revaluation involved rethinking the role and needs of office-based work, involving using hot desks and flexible hubs at which to work, involving use of booking software and apps, which also allowed organisations to reassess their space demands and needs. Some examples are provided in the next section.



Rethinking the use of space

The growth of hybrid working, which has seen more employees work from home for part of the week, encouraged some organisations to reassess their use of space and seek more flexible options (Green et al. 2021).

As the population of offices has thinned out, the benefits accrued from lowering the risk of virus transmission have also, for some employees, also made offices less appealing places to work, which increases the relative attraction of simply working from home as was required during the pandemic. Some organisations have seen this as an opportunity to reduce their space demands and costs, and develop more innovative ways of occupying space:

"We were on a floor with a legal company and the consultants and the support organisations. We ended up being the last company actually in an office on our side. All the other offices were vacant, and that was ... part of the decision for us. People would ... go into a dark corridor, you switch the lights on, you sit in an office on your own. And for the day, see nobody! And then you go home. I might as well just be working from home where it's comfortable. I don't have a commute."

(R1, HEALTHCARE)

Moving their operations to smaller office spaces not only helped deal with the issue of isolation, but also saved money:

"We're probably [using] about half the space we had, but ... paying probably about 40% of what we were paying previously for rent ... And it's all one inclusive cost ... on an 'easy in easy out' [deal] ... We're tied in for a year ... but then it's a month notice so we can take more desks or reduce the number of desks we have. And so hopefully it gives us that flexibility as people change from office working or home working."

(R1, HEALTHCARE)

One option was for organisations with relatively small space footprints to move office spaces shared with other entities, cost savings could be made while also recreating the 'buzz' now missing from their now sparsely populated, single- occupancy office buildings or floors:

"So now we have a three-person office in [redacted] which is a home to a lot of tech companies ... it's nice and vibrant, wherever you go there's some alive human on site! Whilst in our previous office you'd go there, and it was really depressing because I'd go in to get physical post/even during the lockdown and it was literally like Fort Knox. I had to make an appointment with the receptionist to hand over letters and things on the doorstep ... once they relaxed and you could go into the building, there was no one there. It was literally, like, an abandoned ghost site ... that is not an optimal working environment for people when, you know, there's no life ... the other site we moved to, there are people in sight, even during lockdown we'd go to meetings and there would be someone, there would be some core stuff visible. So, it's a nicer setting."

(R7, HEALTHCARE)

Larger organisations were moving to more ambitious desk ratios which will reduce the number of desks required per employee in any designated office space:



"We already had a piece of work undertaken before the pandemic. First of all, that we would be rolling out more remote working and secondly that we would take a more ambitious approach to desk ratios. And that what that ... meant was that we will be getting out of a number of buildings as a principle: we were getting out of buildings where we leased or rented them because we would prefer to own our own buildings. And since the pandemic, we've reviewed that piece of work and made further inroads into this ... on the basis that our hybrid working policy means that fewer people will need an office base."

(R2, LOCAL GOVERNMENT)

Where some organisations operated a pre-pandemic policy of hybrid working assuming a desk ratio of 0.7 - that is, for every 10 employees, there would be seven desks available - the aim was now to move much lower ratios, perhaps as low as 0.2 - two desks for every 10 employees - but getting there through an interim stage of desk ratios of between 0.4 and 0.5. This was seen as a matter of urgency by some organisations given the problems with rising inflation, especially in relation to fuel and heating costs:

"We've not started locking buildings down and closing them because of [low] utilization, but we've got a space utilization report coming in in two weeks' time from the ... Director of Estates, exactly to look at that question ... we're actually going to look at who uses what spaces ... I regularly walk around [and] I'm noticing sparsely populated areas where in the context of ... [the]cost-of-living crisis, fuel crisis, I'm mindful ... of taking more of a harder view ... But we need to be informed by the data ..."

(R8, HIGHER EDUCATION)

These findings support those of Green et al (2021) who in a study of central Birmingham argued that the office was being transformed into a 'network space', which becomes focused more on social interaction, collaboration and cop-creation, which are difficult to recreate when sitting on video calls.



Being prepared for future outbreaks of Covid infections

Several organisations suggested that they had been much more impacted by the effects of the lockdowns imposed to prevent Covid-19 transmission than they had by Covid infections among their workers.

However, as restrictions were reduced, and in particular as the Omicron variant became dominant, levels of infection among their workforces meant that it was from the end of 2021 onwards that organisations suffered the most severe problems with illness and staff absence. This is significant given that Omicron possess the highest transmissivity of all the variants to date, with its later sub-variants appearing to be as if not more infectious (Inman 2022), with concerns that an Omicron infection did little to boost the immune response, so there was a danger of repeated infections (Davis 2022):

"In the last peak in January [2022] ... [while] Omicron was milder in symptoms, it was the reducing supply which hammered us ... having a 10%, 15%, 20% sickness rate is just astronomical, and it gets to the point where you have to look at safe staffing and that's the danger with health and care."

(R6, HEALTHCARE)

Most respondents played down the impact of Covid outbreaks among their employees when previous variants were dominant. While the health effects on individuals had the possibility of being more severe, a combination of greater social distancing rules and either full- or partial-lockdowns, meant that relatively small numbers of employees were signed off work at any one time:

"Delta didn't really affect us too much. We were lucky and I think our people were very sensible. They come from a healthcare sector. So even, you know, the workplace, you can control what you can control ... People are doing things outside of work and where they're going and all that. But I think the people were reasonably sensible ... Omicron is when things got really a bit worrying for us ... we started seeing much more and at one time, I think we had seven or eight cases in a week, which is when we then notify the authorities because, we have to do that... So, I don't think it really mattered too much for us, apart from Omicron, we just went through it and carried on business as usual."

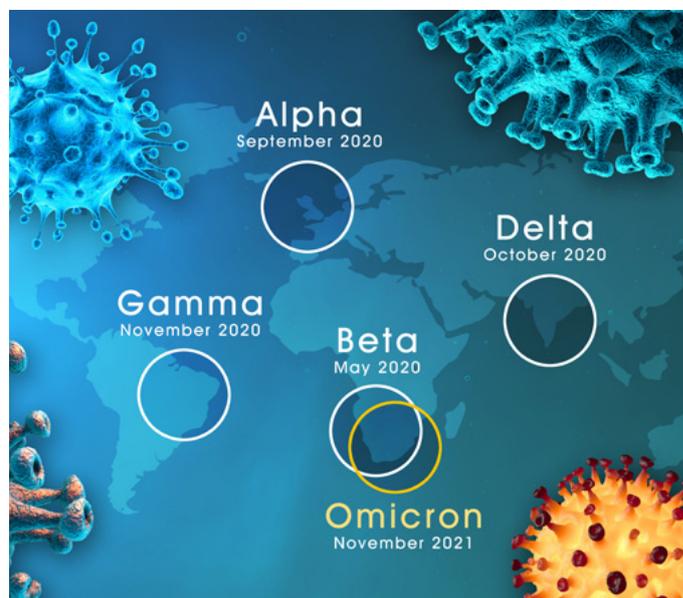
(R4, ADVANCED MANUFACTURING)



There was a recognition that as regulations and restrictions were removed, and with employees having lives outside work which cannot be controlled, especially with the relaxation of social distancing rules, there were greater risks of their employees getting ill. However, rather than see this as excuse to abandon controls altogether, some respondents argued that having some controls in the workplace designed to limit virus transmission and minimize health risk remained important:

"We work in the healthcare sector, we see the reality, the knock-on effect of what happens when you don't put those measures in place, when you don't take things seriously, when you disregard infection control measures. We can see ourselves in terms of people's availability, in terms of resource stretch and the impact on the NHS staff, and we certainly as a business, we don't want to contribute to it any more than is absolutely necessary under current conditions."

(R7, HEALTHCARE, EMPHASIS ADDED)



3. SCENARIO RESPONSE

The 10 organisations interviewed had introduced a range of strategies to adapt to a regime working where the transmission of Covid-19 remained a risk and an ongoing threat to 'normal' business practices, albeit that the severe risks presented at the beginning of the pandemic have been significantly reduced through mass vaccination, higher levels of immunity (at least to severe illness) and the legacy behavioural effects of mitigation practices.

In the UK Government's plans for Living with Covid-19, it was clear that the path to endemicity was uncertain and unpredictable, and set out four possible scenarios over 2022 and 2023 (see Figure 1, page 12).

They are summarised again here:

- **Scenario 1: Reasonable Best-Case** – Relatively small resurgence in Autumn/Winter 2022/23 with low levels of severe disease.
- **Scenario 2: Central Optimistic** – Seasonal wave of infections in Autumn/Winter with comparable size and realised severity to the current Omicron wave.
- **Scenario 3: Central Pessimistic** – Emergence of a new variant of concern results in a large wave of infections, potentially at short notice and out of Autumn/Winter. However, severe disease and mortality remain concentrated in certain groups (and lower than pre-vaccination), e.g. unvaccinated, vulnerable and elderly.
- **Scenario 4: Reasonable Worst-Case** – This leads to a very large wave of infections with increased levels of severe disease seen across a broad range of the population, although the most severe health outcomes continue to be felt primarily among those with no prior immunity.

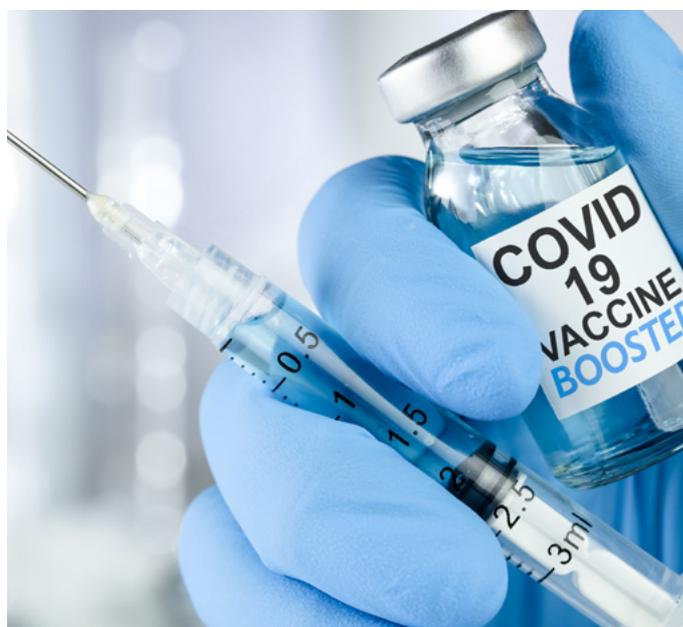
The most likely outcome was seen to be scenarios 2 and 3 – Central Optimistic and Central Pessimistic – although the government stressed that there was only a limited degree of confidence about the likelihood of such outcomes.

Since setting out these scenarios the subsequent path of the virus illustrates clearly why such scenarios can only be provision: infections in the UK fell away in the first part of the year, but as Covid-19 continued to evolve, with ever more contagious variants of the dominant Omicron strain outcompeting their predecessors, infection rates rose again with increases in staff absences and even hospitalisations.⁸

Moreover, given the rise in infection rates over the spring and summer months in the UK, a time of the year when endemic viruses are normally expected to lose momentum, there are concerns that Covid-19 remains resistant to attempts to understand its transmission through the use of conventional models used to track the behaviour of common cold and influenza viruses (Devlin 2022).

This notwithstanding, what responses might organisations adopt if Scenarios 2 or 3 came to pass? It is clear, as one of the main findings of the research suggested, that it would be highly contingent on government advice. It is possible that in the light of a significant increase in Covid-19 infections, and with more severe health outcomes, the government might encourage increased mitigations against transmission, such as the promotion of the use of FFP2/FFP3 masks in indoor public spaces, including workplaces where appropriate, and on public transport, and seek to accelerate the process by which public buildings and workplaces install and/or upgrade their ventilation systems (for example, see Independent SAGE 2022).

However, given the UK government's response to date, strong forms of intervention at this stage of the pandemic/endemic is considered unlikely, not least because even in Scenario 4 – the Reasonable worst case, which includes the emergence of a new Variant of Concern – the government anticipates that 'the most severe health outcomes continue to be felt primarily among those with no prior immunity' (see Figure 1), rather than within the population as a whole.



⁸See Coronavirus (COVID-19) Infection Survey, UK Statistical bulletins: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/condition-sanddiseases/bulletins/coronaviruscovid19infectionsurvey/pilot/previousReleases>

Given that the likelihood of direct government direction under any of the scenarios is deemed to be unlikely, what are the options for organisations if there is a significant increase in the rate and severity of Covid-19 infections? These would, in short, be a continuation of the practices implemented by many of the organisations interviewed for this study during the pandemic to date, including the transition to Covid-19 as an endemic disease:

- **Maintain safe workplaces**

- Discourage 'presentism', encourage mask wearing, improve ventilation

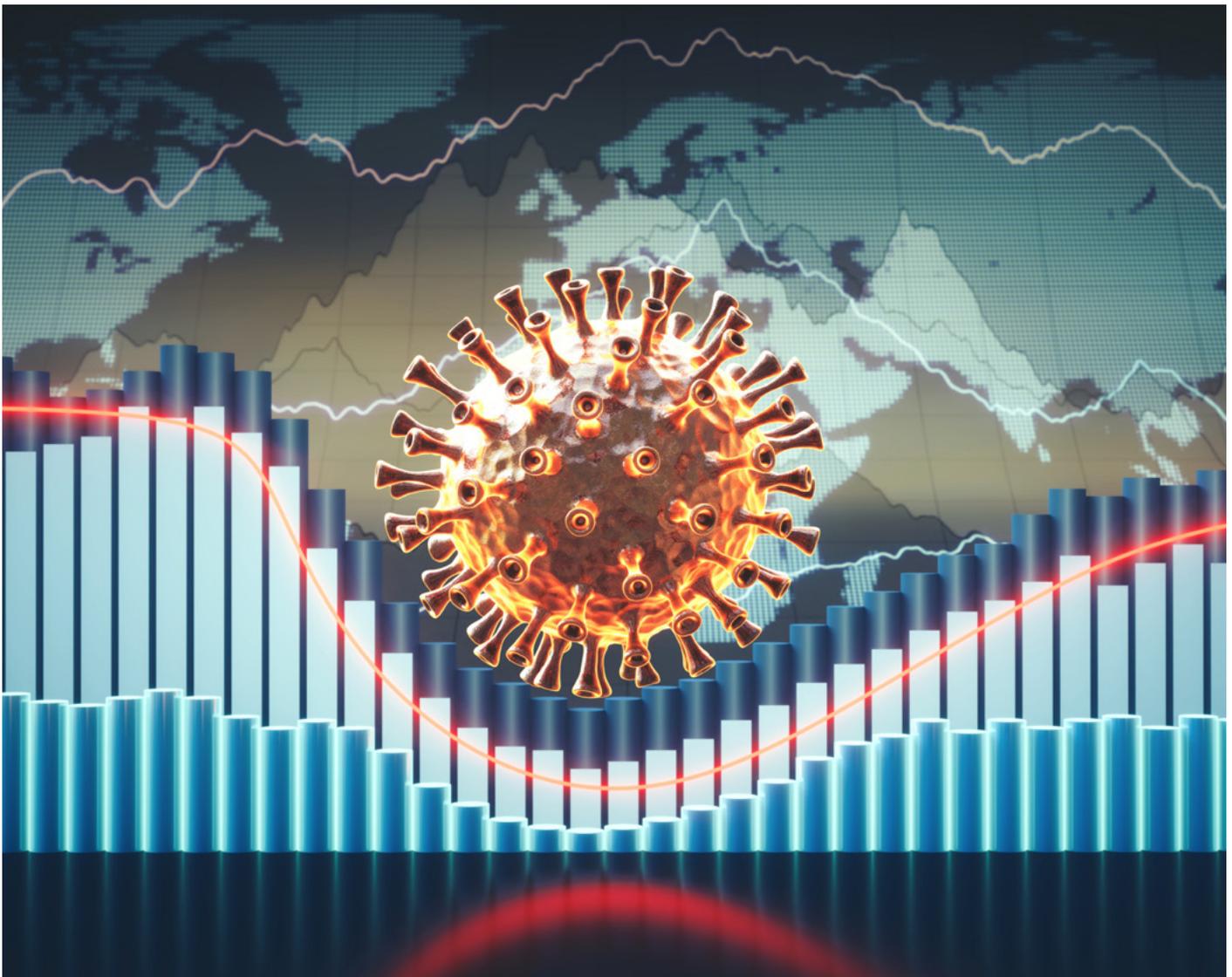
- **Extend hybrid working (where possible)**

- Encourage workers to spend at least part of the week working from home

But note that the shift to smaller offices/shared spaces using lower desk ratios and using the office increasingly as a 'network space' (Green et al, 2021) needs to be managed carefully so this process does not become counterproductive in infection control by returning to smaller but crowded workplaces.

- **Prepare to reverse into pandemic levels of mitigation in the workplace (in a worst-case scenario)**

- Some advanced manufacturing firms put in place comprehensive and apparently effective safety protocols during the pandemic, which enabled them to keep working, which were only recently relaxed (e.g. Spring 2022). These could feasibly be restated if required.



4. LESSONS LEARNED

Finally, what lessons can be drawn from this study of the ways that this small sample of organisations in the Midlands Engine region responded to the pandemic. Two main lessons stand out.

1. Be alert ...

Most respondents began to be aware of a growing health concern around Covid-19 at some point between January and March 2022, but not surprisingly it was those in healthcare that gained the earliest insight that Covid-19 represented a serious threat that would need concerted action and response.

"We started getting conversations at the end of January and 2020 and ... I do recall having conversations on a Sunday morning with regional colleagues saying actually this is coming and we're seeing this spread and particularly across Europe and end of January beginning in February."

(R3 HEALTHCARE)

However, in other areas, a recognition of an emerging problems was not so much in the observation of health data or news reports of a health crisis but a growing awareness that the business environment in which they operated was being severely disrupted.

"The ... thing that probably alerted us was the stock market and the way the banks were behaving ... We could see a very early change whether the stock market was ... getting concerned ... we were thinking about it in very much in supply chains, not thinking it will come to the UK, but how will that affect that?"

(R4 ADVANCED MANUFACTURING)

Long before lockdown, some organisations were even contemplating shutting their operations due to the possibility that supply chains were breaking down elsewhere which meant that they would not be able to source the components and materials they needed to undertake the manufacturing process:

"... we were getting a lot of information about supplier issues and things that were happening in Europe ... So what we thought would happen was that we might have to stop [manufacturing] at some point. Not because of COVID [locally], but because we wouldn't be able to get parts or materials. And I think we knew there was something out there, but we didn't know the scale of it. So our activity originally was, 'How do we shut the plant down safely in a controlled manner so that we can start back up in a controlled manner'?"

(R9 ADVANCED MANUFACTURING)

"Production capacity went down in lots of places around the world because people were isolating ... there were no people in the ports to get the stock from Shanghai or to Mumbai ... because they were all isolating. So, I don't think to this day we realize how much of an effect this COVID has had on supply chains and ... we're seeing it now, right, with inflation."

(R4, ADVANCED MANUFACTURING)

For one university Vice Chancellor, it was an awareness that it was international students returning from China were among the first cases to be recorded in the UK, with implications for the university sector as a whole, given the important of overseas students in the contemporary higher education sector:

"I remember the cases in York. The two Chinese students in a hotel in York, and some of the conversations in our office in terms of this being there, you know something more than kind of SARS or bird flu that would have implications [for us]."

(R8 HE)

As more evidence accumulated from reports around the world, and as cases moved across Europe to include the UK, it began to dawn on a number of the leaders we interviewed that responding to it would be a significant challenge. Yet, at the same time, there was also a hope that the fears generated by Covid-19 as it spread from China to the rest of the world, were overblown and hyperbolic, as this interviewee admitted:

"I don't think anybody ever really took it seriously enough as to it would happen. It's like all these things. I guess there's a bit of you bury your head in the sand ... we were probably guilty as others have in sort of thinking, 'Well, will this impact us? And will it blow over?'"

(R1, CONSULTANCY)

LOCKDOWN

The reason for such an approach is the failure of all other potential pandemics of recent years - such as SARS and MERS - to develop, but also the fact that other crises, such as storms and flooding, to have anything more than a temporary and/or localised impact on everyday life. This tends to encourage an attitude among leaders to refuse to focus overly on crises, preferring to downplay catastrophic predications emanating from the media and other sources:

"... most crises have come and gone in a few days. The storms we had a few weeks ago, we stood up the LRF [Local Resilience Forum]. We managed the damage, we recover, and we move on. People have forgotten all that. You know, same with flooding. But this one went on for two years and it really stretched people's resilience and resources - people don't notice it because most crises have come and gone in a few days."

(R2, LOCAL GOVERNMENT)

But, in the event that a pandemic might develop, some leaders, especially those in healthcare and local government, had confidence in the UK's pandemic preparation plans, in which some of the interviewees had been actively engaged and have often been vaunted as being world leading (Calvert and Arbutnot 2021). This was a belief that was well established especially within those organisations that would be expected to act in response to a pandemic:

"If I wind back to December 2019, I ran with my team, essentially a continuing professional development kind of session a, a bit of a desktop review of our pandemic flu arrangements. In in that session, I recall making some statements along the lines of, "We don't need to worry locally about the provision of PPE. All of that is being sorted out nationally, so there's other things that we can turn our attention to."

(R5, HEALTHCARE)

However, as Covid advanced in the UK these plans were quickly seen to be problematic and deficient in the face of a global emergency.



2. BE PREPARED ...

Preparation for emergencies is a core part of most organisations. Covid-19 is not even the first pandemic of the 21st century – that was caused by the H1N1 strain influenza in 2009-2010 – while the twentieth century saw two additional influenza pandemics – in 1957-1958 and in 1968 – which between them were estimated to have caused as many as eight million additional deaths.⁹ The estimated number of global deaths from the flu pandemic in 1918-1920 vary between 17m to 50m (Spinney 2017). The UK developed an Influenza Preparedness Strategy in 2011 given that a new flu pandemic was seen as the most likely to emerge.¹⁰ The protocols of this plan were rolled out when Covid-19 was declared as a pandemic threat in the UK. However, while some of the protocol plans were appropriate, not all were, because Covid was distinctive virus with different modes of transmission:

“We practice for major disasters ... for nuclear accidents, for outages of power, shortage of food and fuel, for example, and LRF’s have had pandemic flu plans as long as I can remember. And the pandemic flu plan was the basis for what became the work we did on COVID. But as it turned out, it wasn’t. It didn’t follow the course of a of a flu pandemic.”

(R2, LOCAL GOVERNMENT, EMPHASIS ADDED).

For those tasked with running local government services, the implications of the virus failing to conform to the expectations of flu as set out in the UK pandemic strategy were sobering:

“When it became clear that the course of a COVID pandemic was likely to be different than the course of a flu pandemic, in the sense that the arrangements for isolation, track and trace testing the way that the economy and society would close down and particularly impact on key institutions like our hospitals and schools. At that point it was clear to me that we were facing something which was unprecedented in my working life ... I had got fairly clear sense that it was a significant event. Significant enough to take unprecedented action.”

(R2, LOCAL GOVERNMENT)

The informant above (R5) who had placed trust in the pandemic planning process admitted that this position had been ‘woefully wrong’.

“... it was a reasonable statement to make, given the national plans that we were asked to rely on. But they turned out not to be backed up with much. Well, not sufficiently backed up with substance.”

(R5, HEALTHCARE)

The failure of the SARS 2 virus to behave like flu, which was the basis of the plans, combined with subsequent failures to source key material such as PPE, instilled a lack of trust in the pandemic planning process more widely. These problems

“Didn’t [instil] a lot of confidence in [the] planners at Whitehall, who ... hadn’t got all of these things in their in their plans ... this wasn’t something ... they should have been ... figuring out for the first time on the hoof. These were meant to be things that were in place that could be relied on.”

(R5, HEALTHCARE)

But, partly as a result of these deficiencies, many organisations began to forge new and lasting networks of contact between themselves, local government, public health and central government to ensure the deficiencies of the flu pandemic plan could be addressed and overcome:

“One’s always trying to glean some positives out of what has been a pretty murky, two years, but we were meeting weekly with public health as a standard meeting, and then in between times during that period. And whilst we’d had some contacts with them prior to the pandemic, we’d never had such a solid relationship beforehand, and we worked very effectively with them.”

(R8, HIGHER EDUCATION)

And it is this note of optimism, and the process of learning and adaptation that institutions have undergone over since early 2020 that means they would be better suited to managing a turn for the worse in the process by which Covid-19 becomes an endemic disease. Or even in the very worst case, the emergence of a new pandemic. It is sobering to note that the global influenza pandemic that had been prepared for is still anticipated¹¹, likely created in the same ecological conditions that fostered Covid-19 (Wallace et al. 2015; Marani et al. 2021).

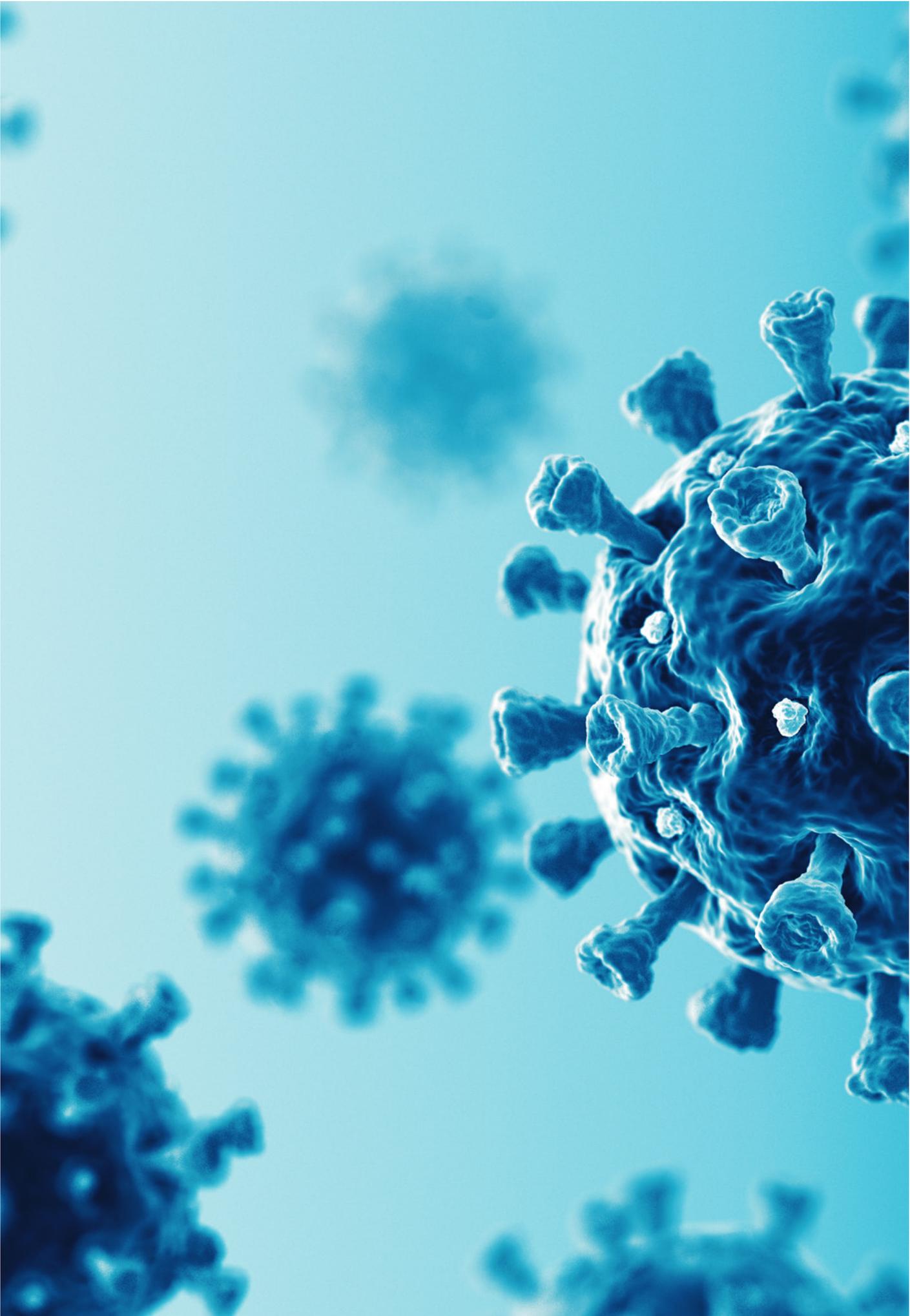
⁹World Health Organization: see <https://www.euro.who.int/en/health-topics/communicable-diseases/influenza/pandemic-influenza/past-pandemics>

¹⁰See <https://www.gov.uk/government/publications/uk-pandemic-preparedness/uk-pandemic-preparedness>

¹¹See for example, World Health Organization, Preventing the next human influenza pandemic: Celebrating 10 years of the Pandemic Influenza Preparedness Framework: <https://www.who.int/news/item/21-05-2021-preventing-the-next-human-influenza-pandemic-celebrating-10-years-of-the-pandemic-influenza-preparedness-framework>

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