



## > phs Index #2

Hands, face and space;  
but what about the air  
we breathe?

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## > Introduction

2020 was a year rocked by COVID-19. Its impact has been widespread and indiscriminate on health, society and organisations. With so much change, organisations will be defined by their response to COVID-19 and how they've evolved, stayed operational and safeguarded themselves, their staff and customers for the future.

Even now, we continue to face new risks. As we entered the winter, we saw a resurgence in infection rates, swiftly followed by new lockdowns, a return to closure for many organisations and repeated limits on social interaction. More than a year later, with little clarity if we will ever truly eliminate COVID-19, it's clear organisations can't simply grit their teeth and hold on for 'normal' life to return. Action is needed now to ensure organisations can continue to operate safely and manage the risks associated with coronavirus and this new era we're living in.

The greatest risk of COVID-19 transmission occurs in indoor environments, particularly in places where ventilation is poor. Imperative in reducing this risk and creating COVID-safe environments is understanding how coronavirus spreads indoors. We've partnered with Professor Paul Linden of Cambridge University, an expert in fluid mechanics and the airborne spread of coronavirus. What's worrying is that so much focus has been on the physical transmission of COVID-19 through touch and infected droplets, many are forgetting to consider airborne infection which evidence indicates is a far greater risk than previously thought.

Once we understand the risk of infection, we then need to appreciate the impact COVID-19 on consumers – and how they feel about entering indoor environments. With this as our aim, **phs** commissioned new, independent research to find out how consumer behaviour has changed and reveal sentiment around visiting indoor settings.

Finally, we revisit the **phs** Index; a barometer of the impact of COVID-19 on organisations. First launched in September 2020, we reveal how many premises have faced a return to closures as a resurgence in infection rates was swiftly followed by new restrictions across the four nations of the UK.

It is imperative to reach this level of understanding so organisations can arm themselves with the right information, insights and expert advice, to proactively mitigate the risks and respond empathetically to consumer need. Only then can organisations be well equipped for the future by effectively tackling the risk of transmission and earning the confidence of staff, visitors and customers to return to their premises safely.

# > The expert view: COVID-19 and the risk of airborne transmission

By Paul Linden, a professor of fluid mechanics at  
Cambridge University

As we collectively work to limit the risk of infection of COVID-19, many of us feel we know what we need to do; wash our hands, wear a mask and keep up to two metres apart from others. To utilise the UK Government catchphrase, it's all about Hands, Face and Space. However, we've been doing this fairly well for a long time and yet we haven't solved the problem. We're missing a vital element which poses a significant risk of exposure; the air we breathe.

As COVID-19 is a new virus, research is still underway to fully understand it and how it spreads. A lot of the focus to date has been on the transmission of physical touch (combated through regular handwashing and cleaning) and droplets which are expelled when an infected person breathes, talks and coughs. These larger infected droplets fall to the ground within around a two metre radius, hence the recommendation to social distance and wear masks. **What we're not talking about enough is the smaller infected droplets and particles which remain airborne once breathed out – and what happens to them.**

These smaller, infected airborne droplets and particles, known as aerosols, enter the air simply by being breathed out and are not contained by masks. Growing evidence indicates infected aerosols can linger in the air for up to hours at a time and provide a viable route for COVID-19 transmission. There is even a risk that, depending on the ventilation system, these aerosols may be spread around a building exposing more people and increasing the risk of infection.

## The science behind airborne transmission



An infected person enters a room, unknowingly breathing out infected aerosols not contained by masks



The invisible aerosols linger and disperse around the room



The infected aerosols can remain circulating in the room, up to hours after the infected person has left

The longer you then spend in an indoor environment, the greater the risk. If, for instance, one child infected with COVID-19 enters a classroom, the risk to the 30 other children in the class increases throughout the school day as more infected aerosols enter the environment and are spread around the room. The same applies in any setting where people spend time together whether a pub, restaurant or a workplace. The problem comes down to one issue; invisibility. **These infected aerosols are entirely invisible to the human eye, meaning you could be breathing them in without even realising it.** As infected people are usually asymptomatic for up to several days, they are spreading these invisible infected aerosols wherever they go – amplifying the risk.



#### Outdoors:

CO2 levels at 400 ppm (parts per million)



#### Summer indoors:

CO2 levels at 800 ppm - twice as concentrated as outdoor spaces



#### Winter indoors:

CO2 levels can reach as high as 1,200 ppm - up to three times more concentrated than outdoors and 50% more concentrated than during the summer

We spend most of our time indoors where particulates in the air become more concentrated. During colder weather, we're less likely to open doors and windows so ventilation drops as a consequence. As a result, the air we breathe is then even more concentrated with particulates and, therefore, if someone within the environment has COVID-19, we're more likely to become infected. It's even conceivable **you could be exposed to coronavirus aerosols up to two hours after an infected person has left a building.**

Unfortunately, this all means that **by only focusing on the 'Hands, Face and Space' message, we risk leaving a gap in our defences** – despite best efforts. Improving indoor air quality must be at the forefront if we truly want to create COVID-19-safe environments.

You can get an indicative measure of air quality by measuring the levels of carbon dioxide within a room. The higher the level of carbon dioxide, the greater the chance you're breathing air someone has already breathed out and therefore the level of particulates (which could include virus particles, pollutants, allergens and dust) is higher.

Understanding the role of ventilation is critical to estimating the risk of contracting the virus and helping slow its spread. The solution is in reviewing ventilation to ensure an adequate supply of fresh air and increasing the number of air changes within a room. It's not just about opening a window (although that will always help), it's about monitoring the flow of air and introducing both natural and mechanical ventilation measures which complement each other. By doing this, the quality of the air is improved, reducing the number of particulates and infected particles; subsequently reducing the risk of infection.

## The restaurant case



In early 2020, an outbreak of COVID-19 occurred in a restaurant in Guangzhou, China, despite no apparent physical contact.



One family, which had just travelled from Wuhan but displaying no symptoms, visited the restaurant.



That day, one family member fell ill and went to the hospital, diagnosed with COVID-19. Four other family members later contracted COVID-19.



Two other families sat at neighbouring tables at the restaurant. Within 12 days, three members of the second family and two members of the third family were infected with COVID-19.



Some of the farthest infected persons were 4.5 metres from the index patient.

Of course improving air quality isn't just going to help reduce the risk of transmission to COVID-19; long term, the benefits are much more pronounced. It will similarly **reduce the transmission of other infectious diseases and viruses such as colds, flu, TB, measles, mumps, whooping cough and chicken pox, reduce pollen concentration for hay fever sufferers in the summer months and, importantly, tackle the rising problem of indoor air pollution.** We've already seen growing awareness of indoor air pollution where concentration levels can be greater inside than outside, leading to health conditions such as asthma, lung diseases and reduced cognitive ability. Good indoor air quality is going to

be so important I even envisage a commercial opportunity where **businesses that actively improve their air quality could certify this with a Kitemark-style system, giving them an edge over their competitors to attract both customers and staff.**

Hopefully what we may gain from the COVID-19 pandemic will be the acceleration of a movement towards better air quality which will have wide-ranging health benefits. What is clear is that poor air quality is a pressing societal and health issue. **The need for properly designed ventilation solutions are imperative to reduce exposure risk and create cleaner, healthier environments.**

### Benefits of improving air quality



**Reduced exposure to germs and viruses**



**Reduction in odours and stale air**



**Less allergens including pollen, mould, dust and pet dander**



**Removal of VOCs from cleaning products, office equipment and paints**



**Increased productivity**



**Cleaner, fresher and healthier environment**



**Prof Linden** is a professor of fluid mechanics at Cambridge University within the Department of Applied Mathematics and Theoretical Physics. He is the co-author of two recent papers on the effects of ventilation on the indoor spread of COVID-19 and is advising the government on ventilation in schools and public transport.

# > How do people feel about spending time indoors?

Now that we know more about how COVID-19 spreads, we can start to understand concerns about spending time indoors – whether it’s within the workplace; visiting healthcare settings; socialising in pubs; restaurants and cafes; exercising or shopping. But how do consumers really feel?

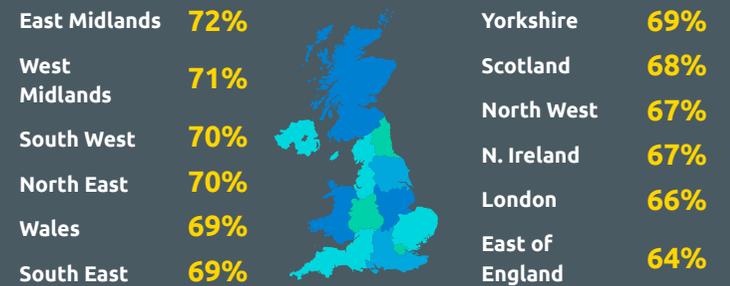
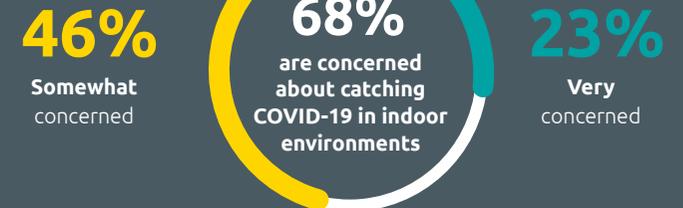
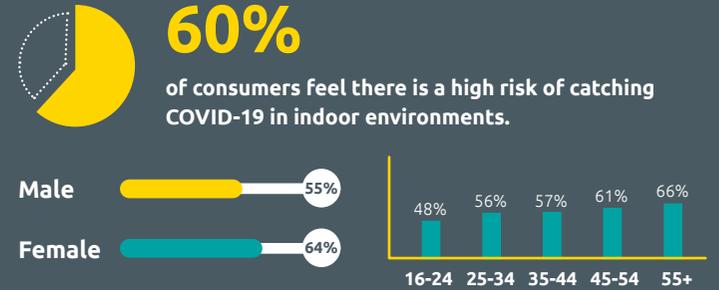
phs’ independently-commissioned research asked more than 2,000 people across the UK for their thoughts and feelings about spending time indoors and how their behaviours have – and might – change.

**The majority of consumers (68%) confess they are concerned about catching COVID-19 indoors.** Nearly a quarter (23%) went as far as to say they are very concerned. Concern was highest in older age groups. Understandably, given age-related susceptibility to the virus’ graver effects, concern was highest in older age groups. Both 71% of 45-54 year olds and 70% of over 55s say they are concerned about catching COVID-19 indoors.

The level of concern over the risk of infection increased over the colder months. More than half (54%) of consumers became more concerned about catching viruses like COVID-19 indoors during winter.

## The phs view

The majority of consumers understand there is a greater risk of COVID-19 infection in indoor settings. More importantly, the research highlights a clear concern about catching coronavirus in indoor settings. Whether it’s at work, school or visiting shops, restaurants and other public places; spending time indoors is inevitable. Making premises safer is critical to see the nation return to an easing of restrictions and being able to spend time in these indoor environments.



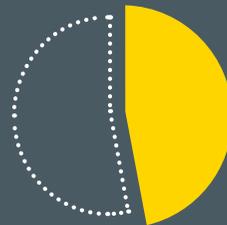


## > Are consumers avoiding you?

The level of concern over catching COVID-19 indoors is translating into a change in consumer behaviour; with people less inclined to spend time in indoor environments directly due to the risk of infection.

**Almost half (49%) of consumers admit they do not want to spend time in indoor environments because of the risk of catching COVID-19.** This rises to 51% in both the over 55s and 45-54 age groups.

While restrictions and lockdowns have been introduced to protect public health, one detrimental side effect is the perception of how safe indoor premises are. A substantial **46% of consumers say the closing down of venues such as pubs; restaurants; gyms and non-essential retail makes them feel that they are not COVID-19 safe.**



**49%**  
of consumers don't  
want to spend time in  
indoor environments  
because of the risk  
of catching COVID-19



**46%**  
of consumers agree  
closing down certain  
venues makes them  
feel that they are not  
COVID-19 safe

Nearly a third (30%) say they only visit indoor environments if they have to, indicating a substantial reduction in outings for leisure, pleasure and non-essential visits. In fact, consumers say they have actively avoided certain settings over the last six months. Most have chosen to avoid public transport (avoided by 44% of consumers). This is perhaps unsurprising as there has been repeated advice to only use public transport for essential journeys.

However, the second most avoided settings are restaurants, cafes and pubs, avoided by 42% of consumers. Forty-two per cent also say they had avoided friends' houses – compared to 34% who have avoided houses of other family members. More than a third of consumers have avoided leisure centres, hotels and gyms (38%; 37% and 36% respectively). As has been a documented concern; 34% have avoided the dentist and 29% have avoided visiting hospitals and GP surgeries. Meanwhile, 28% of consumers have avoided soft play and indoor children's activity centres, 23% have avoided shops and supermarkets and more than one in 10 (16%) have avoided their workplace.

## > Which places have people actively avoided?



**44%**

Public transport



**42%**

Restaurants, cafes & pubs



**42%**

Friends' houses



**38%**

Leisure centres



**37%**

Hotels



**36%**

Gyms



**34%**

Dentists



**34%**

Houses of other family members



**29%**

Hospitals & doctor surgeries



**28%**

Indoor kids activity centres



**23%**

Shops and supermarkets



**16%**

Workplaces

### The phs view

Lockdowns, restrictions and concerns about catching coronavirus have had a real impact on how many people are visiting the places they would unquestionably have spent time in pre-COVID-19. Outside of lockdown, many organisations attest to the fact that they're not as busy as 'normal' whether that's due to having to limit visitors, adhere to curfews or operate remote working. This new research not only evidences this experience but also reveals the extent of how much consumers are actively choosing to avoid specific indoor settings, even when restrictions are not in place. With so many of these premises reliant on footfall for income, this is a major hurdle – particularly for those who have already lost out due to lockdown closures.

# ➤ The reasons people are avoiding indoor settings

When asked why they have avoided certain indoor settings, the most common reason was to avoid catching COVID-19, given by 51% of consumers. However, fears over non-compliance to social distancing was the second most cited reason; 41% of people say they avoided places as they were worried others would come to close to them and not adhere to social distancing.

More than a quarter (29%) say they avoided venues due to worries they would be more vulnerable while 25% did so as they were worried about passing on germs to someone else unknowingly.

However, while risk of transmission is an understandable concern, **a significant proportion of consumers avoid premises because of a lack of trust or knowledge about the measures being implemented.**

Just over a quarter (26%) of consumers say they have avoided indoor settings as they didn't trust the measures in place were enough to protect them. And more than one in five (23%) said they did so as they didn't know enough about what the premises has done to make it COVID-19 safe. Nineteen per cent have avoided entering places simply because they don't want to have to wear a face mask.



51%

didn't want to risk catching COVID-19



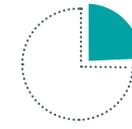
41%

worried that people would come too close or not adhere to social distancing



29%

worried they would be more vulnerable



26%

don't trust the measures in place are enough to protect them



25%

have been worried about passing any germs onto someone else unknowingly



23%

don't know enough about what the location has done to make it COVID-19 safe



19%

didn't want to have to sit wearing a mask

## The phs view

Every organisation can understand that people haven't visited their premises if there are restrictions in place; it is the rule and while it proves difficult for individual premises, it is expected. However, **the research uncovers a trend of people choosing not to visit premises for entirely avoidable reasons.** The measures organisations are implementing need to be comprehensive, robust and trusted; failing to do this is simply creating new reasons for people to stay away. And **once the right measures are in place to effectively reduce the risk of infection as much as possible, communicating this is key to raising awareness; helping to dispel any concerns and building trust.**



## > COVID-19 confessions

Rules and restrictions have been cast over the population for the majority of the year. However, **phs'** consumer research reveals that not all of us always stick to the rules.

Nearly half (46%) of consumers report they have experienced others not socially distancing while just over one in seven (15%) confess they have not always socially distanced from others. Moreover, spending time with friends and family leads to more than twice as many people failing to socially distance; **37% of consumers admit they are less vigilant socially distancing when indoors when they are with their friends or family with non-compliance increasing to up to 46% in younger age brackets.**

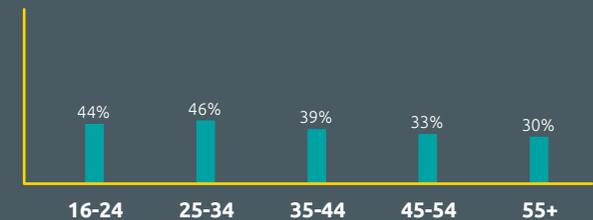
When it comes to other basic hygiene guidelines, one in 10 consumers (10%) say there have been occasions they haven't worn a face covering in public spaces and 14% confess to not sanitising or washing their hands as regularly as they should.

Shockingly, more than one in five consumers (21%) have experienced situations where adequate hygiene measures are either not provided or not being adhered to. In fact, **more than one in 10 (13%) have walked out of an indoor environment because they haven't felt comfortable** while 17% say they've gone so far as holding their breath while walking through a premises or past another person.



**37%**

of consumers are less vigilant with social distancing rules when indoors with friends or family



### The phs view

As the old adage goes, nobody is perfect. And when it comes to following the rules, the research exposes many who admit to not always doing so. However, the guidelines are in place to protect public health and limit the risk of transmission of a virulent and potentially fatal virus. As far as organisations go, they face the unrelenting task of ensuring compliance to the rules so they can operate safely. This includes providing ample hand-washing and sanitising opportunities, implementing distancing measures and ensuring regular encouragement, prompts and enforcement to staff, visitors and customers to stick to the rules.

## > COVID-19 confessions



**46%**

have experienced people not socially distancing



**30%**

only visit indoor environments if necessary



**21%**

have experienced situations where adequate hygiene measures are not provided



**18%**

try to only visit outdoor venues / environments whenever possible



**17%**

have held their breath while walking through an indoor environment / past others



**15%**

when eating out, opt for either takeaway or to eat outside due to the risk



**15%**

have not always socially distanced from others



**14%**

haven't always sanitised or washed their hands regularly



**13%**

have walked out of an indoor environment because they haven't felt comfortable



**10%**

haven't always worn face coverings in enclosed public spaces

# > Consumer confidence in organisations' hygiene and social distancing measures

Robust hygiene measures and social distancing are among the two biggest directives to curb the spread of infection. However, how confident are consumers in these measures when it comes to going into local organisations – whether it's shops, cafes, restaurants, hotels, cinemas or workplaces?

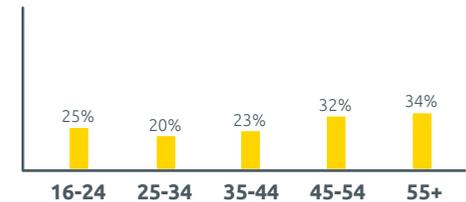
Worryingly, 29% of consumers say they are not confident in the hygiene measures within local businesses while more than a third (34%) say they are not confident in their social distancing practices. Confidence levels dropped in women compared to men and among older age groups.

This was a question we also asked consumers in September to track confidence levels over time. In September, we reported that 26% of consumers lacked confidence in hygiene measures in local businesses and 35% were not confident when it came to social distancing practices. This means that while there has been a negligible 1% improvement in confidence in social distancing, there has been a 3% drop in confidence in hygiene measures.

**8%**  
Not at all confident



**21%**  
Not very confident



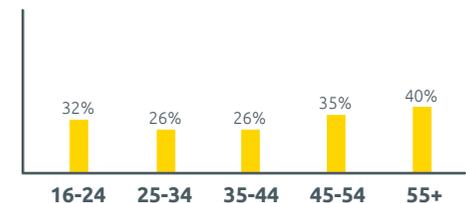
## The phs view

As we've explored, there are enough reasons for people not to spend time in the premises they normally would. However, a lack of confidence in a premises' hygiene and social distancing measures should not be the reason keeping people away. Either way, it is an issue which needs addressing. Organisations must get their hygiene measures spot on and ensure adequate social distancing throughout their premises. And once this is in place, ensure staff, visitors and customers know what you've done so you can gain the confidence that you've rightly earned.

**8%**  
Not at all confident



**25%**  
Not very confident



# > How to prevent the spread of COVID-19

So far we know many consumers are so concerned about COVID-19 they are avoiding indoor environments. It's now time to find out what consumers think organisations should do to make their premises COVID-19 safe, and the impact this would have.

The call to action to organisations from consumers is clear; **more than half (54%) of consumers think organisations should be doing more to reduce the risk of viruses spreading over the winter months.**

The most common measure chosen by consumers for premises to prevent the spread of COVID-19 is to **limit numbers allowed indoors**, cited by 51% of consumers. Nearly half (46%) believe someone should be stood at entrances **ensuring everyone wears a mask** and just over a third (35%) think **temperatures should be checked** on entry.

Forty-two per cent of consumers believe organisations should provide **more sanitising stations** while 39% call for premises to put up **separation screens**. Thirty-nine per cent also think premises should have someone indoors tasked with **enforcing physical distancing**.

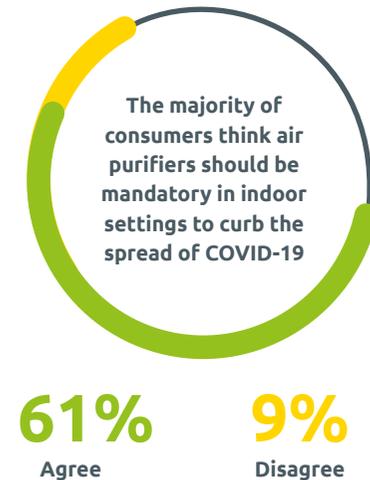
Twenty-nine per cent of consumers believe premises should **install air purifiers to clean indoor air**. In fact, once consumers learned that air purifiers clean the air by physically removing impurities such as germs, viruses and pollutants, nearly **two thirds (61%) went so far as to say they should be mandatory in indoor environments to help curb the spread of the virus.**

Interestingly, a significant number of consumers want organisations to tell them more about the measures they are taking to prevent the spread of COVID-19. Nearly a third (32%) say premises should be demonstrating the precautions before people enter, such as through signage and COVID-19-safe plaques. More than a quarter (27%) say premises should be communicating more about the measures they are taking.

The research indicates clear boosts in sentiment and behaviour as a direct result of organisations implementing these measures. Consumers say these measures would make them feel **safer, reassured** and **trust** that the premises had their best interests in mind. Crucially, they would be **more likely to visit** the premises:



of consumers think businesses should be doing more to reduce the risk of viruses spreading over the winter months



## The phs view

Gaining the confidence of consumers in returning to premises is essential to both the short and long-term future of organisations. Listening to the concerns and demands of consumers is perhaps more important now than ever. This research uncovers what consumers need to reassure them that organisations have their safety and health at the forefront with a defined list of measures which are easy to implement. If the result is a boost in trust and confidence as well as making it more likely consumers will visit, these are demands organisations cannot afford to ignore.

**51%**

**Limit numbers allowed indoors**

- 59% Feel safer
- 48% Feel reassured
- 46% More likely to visit
- 45% Trust the premises had their best interests in mind

**35%**

**Check temperatures on entry**

- 51% Feel safer
- 55% Feel reassured
- 44% More likely to visit
- 48% Trust the premises had my best interests in mind

**42%**

**Have more sanitising stations**

- 51% Feel safer
- 53% Feel reassured
- 38% More likely to visit
- 48% Trust the premises had my best interests in mind

**39%**

**Have separation screens**

- 56% Feel safer
- 50% Feel reassured
- 40% More likely to visit
- 47% Trust the premises had my best interests in mind

**39%**

**Have someone indoors enforcing physical distancing**

- 51% Feel safer
- 50% Feel reassured
- 45% More likely to visit
- 49% Trust the premises had my best interests in mind

**46%**

**Have someone stand at the entrance to ensure everyone wears a mask**

- 53% Feel safer
- 53% Feel reassured
- 44% More likely to visit
- 51% Trust the premises had my best interests in mind

**32%**

**Demonstrate the precautions to limit the risk of infection before you enter the premises**

- 40% Feel safer
- 48% Feel reassured
- 39% More likely to visit
- 48% Trust the premises had my best interests in mind

**29%**

**Install air purifiers which clean the air, removing germs and viruses**

- 52% Feel safer
- 46% Feel reassured
- 44% More likely to visit
- 49% Trust the premises had my best interests in mind

**27%**

**More communication about the measures they are taking to limit the risk of infection**

- 44% Feel safer
- 52% Feel reassured
- 40% More likely to visit
- 49% Trust the premises had my best interests in mind

# > Long-term behaviour change

COVID-19 has had an acute influence on consumer behaviour. But while questions have been raised about when we can get 'back to normal' and all hopes are set on the effectiveness of vaccines, will consumers instantly revert to their old way of life?

phs' consumer research discovered caution will prevail over the long term. When asked how their behaviour will change in the future when potentially all restrictions are lifted, just 13% say they would return to their 'old' pre-lockdown way of life.

More than a third (38%) say they will continue to be more vigilant with handwashing and sanitising as well as continuing to social distance from people they don't know. A third (34%) say they will continue to be more cautious when in indoor environments while nearly a quarter (24%) say they will still be more likely to visit places they are assured are COVID-19 safe. Fourteen per cent also say they will spend longer in places that they are assured are COVID-19 safe.

More than one in five (22%) say they will continue to only visit indoor environments if they have to and 18% will continue to limit the amount of time they spend indoors. Interestingly, one in five (20%) say they will continue to wear face coverings even if it is no longer mandatory.

## The phs view

Even when we see the end of lockdowns and coronavirus restrictions, it seems as if life won't just snap back to 'normal'. With such major shifts in consumer behaviour set to linger – and perhaps embed permanently into the 'new normal' – organisations have no choice but to evolve now or risk being left behind.



will continue to be more vigilant with washing / sanitising hands



will continue to social distance from people they don't know



continue being more cautious when in an indoor environment



will be more likely to visit places that they are assured are COVID-19 safe



will continue to only visit indoor environments if they have to / it's necessary



will continue wearing a face covering even if it's no longer mandatory



will continue to limit the amount of time they spend indoors



will return to their old (pre-lockdown) ways of living



will continue to opt for either take away or to eat outside due to the risk of viruses



# > The phs Index: the impact on organisations

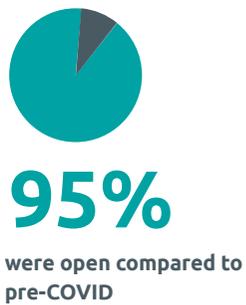
Due to the nature of our business, with more than 120,000 customers and servicing 300,000 premises, **phs** has built up a picture of how the coronavirus pandemic is affecting organisations at ground level. We've compiled this rich customer data into the **phs** Index, a barometer of COVID-19's impact on organisation closures.

## Historic data: a reminder of what's happened

To recap the findings from the inaugural **phs** Index in September 2020, we found:

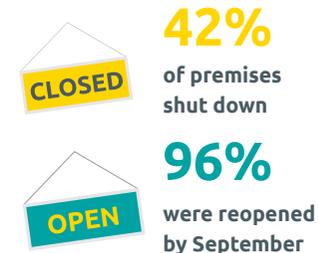


By September 2020



**5%**  
were still closed having been shut for as much as six months.

The picture was slightly different across the four nations:



Shutdowns during the affected each sector to varying extents, during the peak of closures:



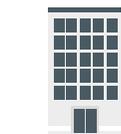
**73%**  
of premises in the accommodation and food services sector shutdown

**8%**  
were still closed by September



**62%**  
of premises in the arts, entertainment and recreation sector shutdown

**11%**  
were still closed by September



**38%**  
of premises in the financial, administration and support services sector shutdown

**11%**  
were still closed by September

## > The new data: where are we now?

The **phs** Index reveals as many as 22% of UK premises from all sectors were closed at the peak of new restrictions in February. While during the first national lockdown in March 2020, accommodation and food services was the sector impacted most by closures, this time round, it's the arts, entertainment and recreation sector. The latter has seen 73% of premises shutdown (compared to 62% last year). Meanwhile, 69% of food and accommodation premises were closed in February compared to 73% last year.

As more than half of these two sectors are still hit by closure, the scale of disruption is evident. Meanwhile, 23% of financial, administration and support services premises closed their doors during February, largely driven by home working of office staff.

Looking deeper into the data reveals how the varying approaches to restrictions across the UK has impacted organisations.



During the UK Government's imposed four-week lockdown in England from 5 November to 2 December 2020, a total of 15% of premises closed, making it the region with the highest proportion of closures. As of February 2021, 21% of premises in England were shutdown under lockdown.



The Scottish Government did not instigate a full national autumn lockdown, instead opting for tiered restrictions dependent on local COVID-19 infection rates. This led to 11% of premises shutting down in November. Under the latest lockdown, 29% of premises were closed (as of February 2021), higher than the national average.



Northern Ireland experienced the earliest of the second wave of partial lockdowns, coming into force in October, with a circuit-break imposed in late November. As a result, 23% of premises shut down. Following this, Northern Ireland experienced a surge in new closures. As of December 6, shutdowns more than doubled to 23%, leaving 77% of premises open compared to pre-pandemic levels. As of February 2021, 30% of premises were closed - the highest proportion within the four nations.



During the Welsh Government's imposed fire-break in Wales from 23 October to 9 November 2020, the closure rate of premises was 12%. As of February 2021, 23% of premises were closed under lockdown.

## United Kingdom



## Scotland



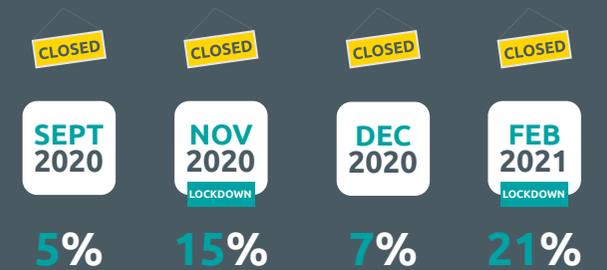
## Northern Ireland



## Wales



## England



## > The London problem

As a hub for business, tourism and visitors, the **phs** Index reveals the coronavirus pandemic has had a disproportionate impact on Central London. The **phs** Index reveals 56% of premises in Central London closed during the first national lockdown – far in excess of the 43% experienced nationally. By September, 90% of premises were reopened meaning that one in 10 (10%) remained closed.

During the second lockdown, the trend was sustained. 29% of premises were closed in February 2021 - higher than the national average. Even last September when restrictions had been eased, one in 10 Central London premises remained closed. And as of February, more than half (51%) are shutdown.



**56%**  
of organisations' premises closed throughout March 2020 lockdown



**90%**  
were open by 15 September 2020



**49%**  
shutdown at the peak of closures in February 2021



**51%**  
of premises were open in February 2021



As we've seen, the sectors impacted the most by the pandemic are accommodation and food services, arts, entertainment and recreation alongside finance, administration and support services. As these sectors are synonymous with Central London, lockdown closures have had a more pronounced effect in the city. And with commuters, tourists and visitors staying away for the foreseeable future, London organisations will continue to feel the pressure of the pandemic.

### The phs view

While COVID-19 has had a devastating effect on health, the impact upon the economy and individual organisations cannot be ignored. The **phs** Index demonstrates the proportion of organisations which experienced the monumental disruption of closing their doors. The first national lockdown had a slightly lessened impact on business closures than the second-wave has brought which is good news for a small minority. However, while the closure rate did lower to 10% back in September, a return to lockdown has resulted in a return to closures with as many as 49% shutting down.

Even when these premises are open, many aren't operating at pre-pandemic levels whether due to limits on travel, restrictions on social interaction, reduced capacity, home working, curfews and changes in consumer behaviour. The **phs** Index tells us occupancy for the nation's buildings was down 17% in September, rising to 38% in London. We also have to wonder how premises facing repeated and prolonged closures will sustain their business or, in the worse cases, even recover. Intensifying this pressure-pot scenario is the uncertainty of what lies ahead. **One thing that is certain is that when organisations can open, they must do everything they can to COVID-proof their premises and give confidence to their staff, visitors and customers to return safely.**

## > The phs solution: air cleaning

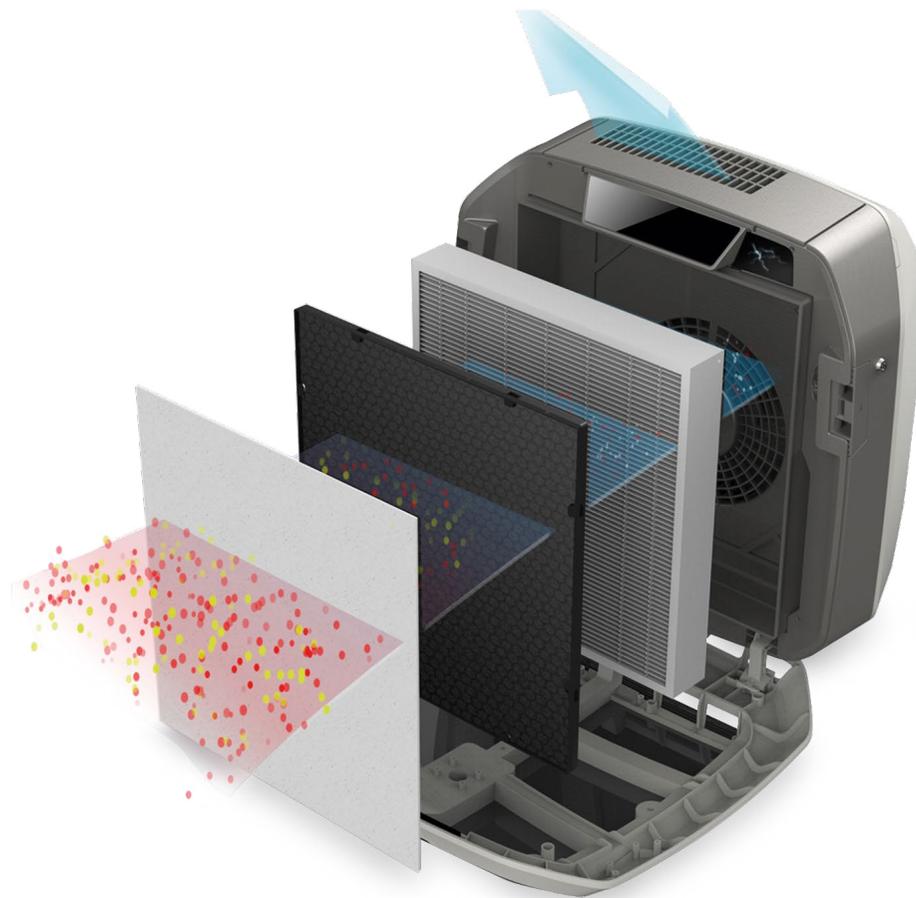
Throughout this white paper, we've evidenced the sustained risk of COVID-19 infection and the rising calls from scientists about the need to tackle airborne transmission. We've explored how many organisations are struggling with the impact of closures through the **phs** Index. And we've also discovered the real concerns of consumers when it comes to spending time in indoor environments.

We've heard directly that consumers are concerned about the risk of catching COVID-19 in indoor environments and that this has led them to actively avoid premises. We know they lack confidence in hygiene and social distancing measures within premises and can lack trust that the measures in place are enough to protect them. We also know that they want to hear more about what organisations are doing to become COVID-19-safe before even entering their premises and that certain measures will make them feel safer, reassured and more likely to visit.

In response, while hand sanitisers, PPE bins and cleaning products are a standard quality offering at **phs**, what's coming to the fore is our range of air-care solutions, led by our **AERAMAX PROFESSIONAL** air purifiers.

Air purifiers work by cleaning the air, physically removing impurities. While they're invisible to the naked eye, the indoor environment is full of particulates. These can include pollutants, viruses, germs, allergens, dust, mould and VOCs. The average person inhales 11,000 litres of air every day and spends around 90% of their time indoors – around nine hours a day in shared spaces which can be up to five times more polluted than outdoors.

The four-stage filtration system with HEPA filters removes 99.7% of airborne pollutants, emitting cleaner and fresher air back into the indoor environment.





With the **AERAMAX** PureView technology, you can see the filters at work; EnviroSmart laser sensors continually monitor air quality in the room, activating the filtration system when harmful particles are present. The digital display indicates the percentage of particles being cleaned or can display the PM2.5 particle count, an industry standard for air quality measurement. This feature makes the invisible, visible; demonstrating its impact to organisations and anyone within that room.

Earlier in this white paper report, we learned from Professor Paul Linden that increasing the number of air changes within a room is key to creating cleaner air. **AERAMAX air purifiers can change the air within a room a minimum of three to five times per hour (dependent upon the size of the room). That's up to once every 12 minutes.** With organisations wanting to welcome visitors and customers into their premises safely, **this is ground-breaking for all sectors;** healthcare, care, education, retail, hospitality, leisure facilities, workplaces and visitor attractions.

When it comes to the power of **AERAMAX**, it has been proven to eliminate a range of viruses and diseases from flu and colds to the norovirus. **They are certified to reduce airborne concentrations of influenza (H1N1) aerosols, reaching 99.97% airborne virus reduction with the first 35 minutes of operation.**

Meanwhile, new independent laboratory testing has certified that **AERAMAX** air purifiers are effective against coronavirus. The results confirmed **AERAMAX** eliminated 99.99% of aerosolized airborne human coronavirus 229E. These are the same size as the Sars-CoV-2 coronavirus particles which causes COVID-19 with similar characteristics.

Used in partnership with hygiene measures including regular hand washing, sanitisation, cleaning and social distancing, air cleaning creates another robust line of defence as we all battle against the risks of coronavirus.

And as Professor Linden also intimates, tackling poor indoor air quality isn't just a short-term, knee-jerk tactic during the current pandemic. **Good ventilation and air cleaning helps organisations look after the health and wellbeing of building users by removing viruses and germs, reducing indoor air pollution, decreasing allergens including dust and hay fever and lowering the exposure to VOCs.** They also create a fresher environment by reducing odour.

Improving indoor air quality is pivotal to create **healthier** indoor environments **now and for the future;** for **everybody.**



# > AERAMAX in action

## CHILDCARE AND EDUCATION

phs AERAMAX air purifiers have been trialed in four childcare settings; three private nurseries and one nursery school. Following installation, each reported a range of benefits from a drop in sickness, improved attendance and air which was up to seven times cleaner.

Initial air quality testing at Little Sparrows Day Nursery, in Waltham Cross, London, showed particulate levels as high as 80,800 within their premises. After the installation of the AERAMAX air purifiers, the nursery was amazed to see the particulate levels had fallen to as low as 10,600.

Rachel Traczyk, the nursery deputy manager, explained to us how the air max purifiers have absolutely given their parents and staff more reassurance about the indoor environment, especially during the pandemic. New parents in particular feel more confident to know that the air is continuously being cleaned and the nursery has also seen a huge increase in parents registering.

Class teacher Emma Ashford of St Hilda's Church of England Primary School, in Manchester, reports their air purifiers have been extremely effective. The school reported a dramatic decrease in children being off school due to illness along with a fresher feeling within the classroom noticed by staff and parents. Ms Ashford now extolls the virtues of the purifiers and also sees them as important way of protecting children from the effects of indoor air pollution.



## HEALTHCARE

Our customer Stonehaven Residential uses **AERAMAX** air purifiers to create a cleaner, healthier environment throughout its care home in Lincolnshire.

The owner of Stonehaven Residential Care Home is pleased that unwanted odours are constantly being removed from the air, which has left the air feeling much fresher. Viruses can spread quite quickly in care homes, but since installing the device the spread of viruses amongst residents has significantly reduced. The number of chest infections, which were once quite common, has seen a significant reduction. A doctor who regularly visits the care home has also commented on how fresh and clean smelling the air in the care home now feels.

“Since installing the **AERAMAX** device, the air inside our care home feels so much fresher, and our residents have noticed a positive difference to their health. The machine also ensures any unwanted odours are quickly removed from the atmosphere, which helps us to maintain a clean and welcoming environment for our residents.”

**Darren Stevens**

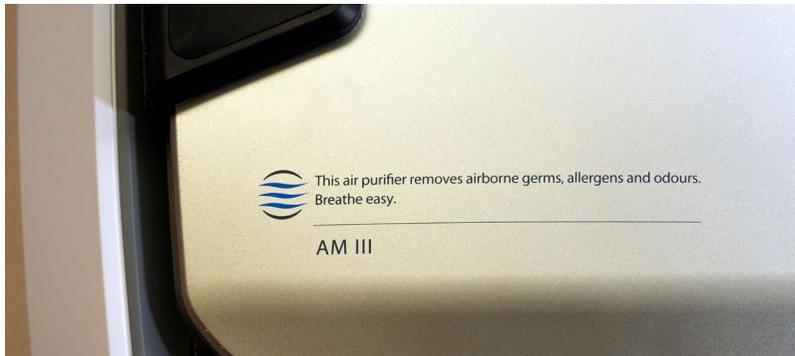
Owner of Stonehaven Residential Care Home



## WORKPLACES

Facilities management company Churchills Group has installed **AERAMAX** air purifiers within its offices and advises clients about the benefits of air cleaning as part of its range of services.

It has chosen air purifiers for its boardroom and kitchen in its Gateshead office as the most common areas for people sharing the same air and within its Fleet Street London office to remove pollutants, being based on a busy road.



“Cleaning has always been an essential service, but for so long it was also an invisible service. The pandemic has changed that irrevocably as people recognise the importance of cleaning and hygiene, from surfaces to air quality. Our extensive experience has enabled us to advise clients on how to keep their buildings safe through a range of methods, from enhanced cleaning regimes to upgraded air filtration systems. We’ve also assisted clients with communicating these methods to building occupants, which is just as important. People simply will not feel comfortable in a space unless they can be assured it is safe.”

**Charlotte Parr**  
Director

## SHARED FACILITIES

Food redistribution charity FareShare has installed an **AERAMAX** air purifier in its London office, donated by **phs**, to help improve the air quality for its frontline staff.



“The safety of our frontline volunteers and staff is paramount, particularly at the moment, when we’re all being so vigilant to ensure we’re wearing face masks correctly and socially distancing. The installation of the **AERAMAX** air purifier means we can be completely reassured that the air is clean and fresh, and safe for people to use for prolonged periods. We’ve worked with **phs** Group for many years, and we value their support and kind donations, which help us to continue to support thousands of charities to feed people in need.”

**Lindsay Boswell**  
FareShare Chief Executive

## > Introducing the phs COVID-19 bundle

**phs'** aim through this white paper has been to equip organisations with the knowledge, insights and understanding to overcome the challenges they face. At **phs**, we are hygiene experts and act as trusted advisors to organisations to create COVID-19-safe environments through a range of products and services bespoke to each premises.

Due to the services we provide – from hand sanitisers and air purifiers to deep cleaning – we've been called upon more than ever by organisations for our expertise. A global pandemic is a new situation to all of us but **phs** has the skills, experience, resources and products to support organisations, no matter their challenge.

While we've been offering hygiene products and services throughout the pandemic, we're pleased to announce the launch of the **phs** COVID-19 bundle; the ultimate product package in the fight against infection.

Our products and services include:



**Contactless  
hand sanitation**



**HEPA filter  
hand dryer**



**Auto  
sanitary bin**



**Air  
purification**

Our message to organisations throughout this pandemic is simple. At **phs**, we are by your side offering support along every step of the way.

**For more information, visit the phs Index pages: [www.phs.co.uk/phsindex](http://www.phs.co.uk/phsindex) and you can also follow us on Twitter @phsgroup or LinkedIn phs Group**

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