



#CovidSafetyPledge Week of Action

20th - 24th March 2023

Employers: why should you improve the air quality in your workplaces?

Because Covid is not over, it's not just a cold and it can severely impact your own health, your workers and customers' health, and can harm your business. The effects of Covid on small business can be catastrophic in terms of workers' sickness absence, problems retaining or recruiting staff, disruption to service, having to close or reduce opening hours, uncertainty and extra costs. Fewer people visiting to use your service or buy your products because they have a rational concern about the risk of catching Covid, can reduce your income. Prevention is possible. Covid is spread from person to person through the air so putting Covid preventions of better ventilation, air filtration, sick pay and encouraging mask wearing in place, can cut the risk of spread and infection and be good for business



During #CovidSafetyPledge Action Week, we would like all businesses, especially smaller ones to consider what you can do to protect your staff and customers from Covid and other airborne illnesses and pollution, and how this might benefit your business. Audit your ventilation system, measure CO₂ and PM, particulate matter, find out about HEPA filtration, seek competent advice. Consider signing up to #CovidSafetyPledge and publicising the measures you are taking to clean your indoor air and cut the risk of Covid.

Despite Government abandoning all specific control measures in July 2022, and forcing people back to unsafe workplaces, 'Living with Covid' is not going well. Covid-19 has not gone away, it is currently infecting 1 in 40 people in Great Britain, but rising again, killing around 500 people every week, 2.3 million are suffering Long Covid and around 500,000 people have left the workforce, UK economy has the worst recovery in Europe. USA estimates are that 1 in 5 people has had or has Long Covid and the cost to their economy is \$trillions.

Even mild Covid can cause damage to your organs and systems that only show themselves months later in cardiovascular events like strokes and heart attacks, neurological damage like reducing memory, concentration, thinking capacity, and increasing risk of dementia, digestive, physiological effects and damage to the immune system leading to increased susceptibility to other viral, bacterial and fungal illnesses, which mean people are sick all the time at the moment. Covid greatly increases risk of death in pregnancy, premature birth, miscarriages, harm to the unborn child. Covid reduces life expectancy and in around 10% of infections can lead to chronic disabling Long Covid.

Anyone can be vulnerable without knowing it- you, you staff, your customers, and every infection makes it more likely that you might suffer serious effects. Many children, young and older healthy adults are now suffering such bad Long Covid that they are unable to work and need caring for, others are struggling to carry on working but at a lower rate and productivity. The most vulnerable group to Covid-19 includes the 500,000 immune-suppressed people due to cancers, treatments, illnesses and life long conditions and other Clinically Extremely Vulnerable or Clinically Vulnerable people. Also black and minority ethnic people, the elderly and disabled people are known to be at higher risk and getting infected may worsen their conditions or kill them. High air pollution is known to worsen Covid and areas of higher deprivation have higher Covid-19 infection levels. Men are more likely to get acute Covid but women are more likely to develop Long Covid. Long Covid sufferers are losing their jobs and homes, and finding precious little financial support or treatment to support them.



There may be up to 10 million vulnerable people including their families, avoiding going out and spending money in businesses that are not taking Covid preventions any more because of the high risk to their health. They are excluded from their local communities, isolated in their own homes and mostly invisible, but any one of us could join them if we get infected tomorrow.

We all depend on the NHS for emergencies and treatment. The Covid pandemic, the consequences of high infection rates, staff absences, and all the other illnesses that Covid immune system damage makes people more susceptible to, are straining the NHS to breaking point. Hundreds of people are dying in ambulances outside A+E every week, the waiting list for treatment is over 7 million and 30-40% of people in hospital with Covid actually caught it there.

The only cure for Covid and Long Covid, all the harm to our bodies, communities, business and the economy is to prevent the spread of the virus and the risk of catching it and this can be done by cleaning the indoor air in work and public places.

What can you do to reduce the risk of Covid in your workplace?

Covid is airborne. Covid is spread from one person to another in the tiny airborne respiratory particles/aerosols which we exhale, that travel through the air like smoke, and hang in the air for minutes or hours after an infected person has breathed them out. They build up in poorly ventilated, crowded indoor spaces where people are working or socialising. **To stop it spreading to workers or customers we need to clean the air by:**

- Good ventilation which dilutes, disperses and reduces the Covid containing aerosols in the air
- Making ventilation visible by monitoring the carbon dioxide, CO₂, level as this builds up when ventilation is poor. A CO₂ level below 800 parts per million represents a reasonably ventilated room. To improve natural ventilation open windows and doors, or ensure any mechanical system is working at high level.
- Natural ventilation often cannot be improved enough and experts recommend adding portable High Efficiency Particle Air, HEPA filtration, which sucks in air from the room and removes the Covid containing aerosols. Even with increased electricity prices, running these filters is likely cheaper than trying to keep warm with open windows in cold weather.
- Commercial HEPA filters must have the right capacity, Clean Air Delivery Rate, for the room and can be expensive but there are alternative very effective DIY Filters called Corsi-Rosenthal boxes which can be made for under £200
- Encouraging people, especially workers, to wear FFP2/3 respirator standard PPE masks as they filter out Covid containing aerosols too.
- Ensuring sick workers have sick pay to stay at home, recover and not infect others.

For more details see the Ventilation Audit and practical resources below

Air filtration and ventilation can cut risk of contracting Covid and any respiratory disease by up to 80-90%. Good news is that this will reduce colds, flu and the amount of harmful particulate pollution and allergens in the air which also cause ill health.

In a small business the cost of better ventilation and HEPA filters can be off-set by the benefits of:

- Better health for staff, better attendance, concentration and productivity
- Less sickness absence, less constant disruption to service and quality
- Reduced risk of long-term sickness with Covid effects and Long Covid
- Better retention and recruitment of staff, less uncertainty
- Reassurance for CEV/CV vulnerable customers that your premises are lower risk, increased custom
- Confirmation to all staff and customers that you care about their health and are trying to protect them
- Compliance with health and safety law, Improved reputation
- Information you can advertise on websites, social media, on doors, promotional leaflets with QR codes
- Reduced costs, better business



Clean air is good for us and there is a clean air revolution developing all over the world including the UK

We have laws to ensure food and water are safe and do not contain harmful bugs. While we eat about a kilogramme of food and drink a few litres of water a day, we breathe **22,000 litres of air** yet have no legal standards for clean indoor air free of bugs. We accept outdoor air is polluted and harmful so act to prevent it but we spend 90% of our time inside. Indoor air can be 2-5 times more polluted than outdoor air and also contains other people's breath which carries a whole range of bacteria and viruses including Covid. Poor indoor air is a big risk to our health. **The demand for clean indoor air standards, laws and action is growing:**

Schools, cafes, airports, cinemas, theatres and other public places across world which have improved ventilation and added filtration have found this to be beneficial and publicise it on-line.

Apricot Tree Café in Canada has been using HEPA filters and posting their CO₂/ventilation levels on-line since Covid struck, and reports no staff absences from Covid caught at work, and better customer footfall.

Films and TV productions have strict testing and masking policies, and no one got into the Oscars without a negative test.

Global CO₂ and air quality monitoring via websites and Apps such as The Raven Clean Air map where businesses and customers can upload CO₂ readings to help people assess the risk they face to their health and whether to visit or not.

Knowsley Council by signing up to Covid Safety Pledge and working with trade unions has retained its Covid ventilation and isolation with sick pay preventions for all its buildings and services and has less sickness absence

In UK a number of primary schools Head Teachers bought HEPA filters for all their classrooms early on in the pandemic and report much less sickness absence of staff and pupils.

Lib Dem Cllr Patrick in Somerset is part of a growing group of concerned engineers, scientists, parents spreading information, encouraging better ventilation and filtration and making and distributing for free the cheaper DIY CR filters to schools and community warm hubs. DIY filters are being used in schools in Ceredigion, Warrington and many other areas.

Other countries are investing and legislating for cleaning air

USA - the White House launched \$billion programme to clean the air in schools eg Chicago schools have installed CO₂ and PM monitors in all their public school classroom which are online giving real time readings. US states bringing in laws and programmes.

Belgium just passed laws setting strict ventilation and air quality standards and requires public indoor spaces gyms, restaurants and bars, cafe to publish real time CO₂ levels. Will be extended to other workplaces.

France passed law setting strict air quality and CO₂ levels in schools and day care.

UK NGOs petitioned Health Minister for UK Indoor air quality laws, Private members Clean Air Human Rights Bill going through Parliament at moment

If clean air is good for the rich and powerful, surely we should demand it for all of us?

Eton and other public schools installed HEPA filters early in the pandemic

Recent World Economic Forum at Davos gathering of rich and powerful, had high level Covid preventions – admission only by proof of negative PCR test, high level of ventilation, HEPA filters and FFP2/3 masks.

UK Parliament had a mechanical ventilation upgrade with 100% fresh air, electrostatic filtering system and CO₂ monitoring before Covid which protects MPs and Lords.

More information on the Covid Safety Pledge on our website: <https://covidpledge.uk/> **Twitter:**

@CovidPledge share any responses on our twitter page: <https://twitter.com/covidpledge> **or by email** info@covidpledge.uk



References and more information

How Covid affects us:

Dr Jonathan Fluxman, Doctors in Unite [Covid 19 - where are we and what we can do about it - YouTube](#)

Professor Stephen Reicher and Lara Wong founder of charity Clinically Vulnerable Families <https://covidactionscotland.org/2023/03/13/report-from-public-meeting/>

Long Covid information: <https://www.longcovid.org/resources/information-leaflet> <https://www.longcovidkids.org/> <https://www.clinicallyvulnerable.org/>

Pregnant women with Covid face 7x risk of dying compared with uninfected pregnant women <https://tinyurl.com/yzwjbxp>

How to clean the air

Covid Safety Pledge Ventilation audit <https://tinyurl.com/9wvrzc8c>

Clean Air Classrooms info including building DIY CR filter boxes: <https://tinyurl.com/2696z8pp>

Cleaning the Air detailed practical resources on all aspects: <https://tinyurl.com/mtwa55hv>

Choosing a HEPA filter: [Air Filters - Clean Air Stars](#) <https://cleanairstars.com/filters/>

HSE Ventilation Guidance: <https://tinyurl.com/yck7mynf> [Ventilation in the workplace \(hse.gov.uk\)](#)

Chartered Institute for Building and Service Engineers, CIBSE: CIBSE Guide V 5: <https://tinyurl.com/jwh4j598>

US CDC study showed 65% reduction in aerosol exposure using 2 filters in office space; 90% with masking (3 ply cloth) and 2 filters. <https://www.cdc.gov/mmwr/volumes/70/wr/mm7027e1.htm>

Addenbrooke's Hospital and University of Cambridge put air filtration machine in COVID-19 wards, it removed almost all traces of airborne SARS-CoV-2 virus <https://tinyurl.com/mv6hum98>

Visualisation how Covid is spread by aerosol transmission in a room, a bar and classroom: <https://tinyurl.com/5ase6a5p>

Visualisation how to avoid infection in indoor spaces linked to CO2 levels: <https://tinyurl.com/bdenbnu4>

Visualisation of how opening windows helps: <https://tinyurl.com/2ftyv67a>

@RavenApp Raven Clean Air Map: <https://www.ravenapp.org/cleanair>

Economic benefits of clean air

Cleaning our indoor air makes economic sense: <https://northwestbylines.co.uk/news/health/covid/cleaning-our-indoor-air-makes-economic-sense/>

Cost-effectiveness of interventions for the prevention and control of COVID-19: Systematic review of 85 modelling studies: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9196831/>

Natural ventilation, low CO2 and air filtration are associated with reduced indoor air respiratory pathogens: <https://www.medrxiv.org/content/10.1101/2022.09.23.22280263v1>

To Stop Covid we must clean the air: <https://www.medscape.com/viewarticle/984232>

National Engineering Policy Centre: 'Infection resilient environments: time for a major upgrade' June 2022 <https://tinyurl.com/mt99kaz3> *'Even without a pandemic, seasonal respiratory diseases cost the UK about £8bn a year in disruption+ sick days...another severe pandemic within next 60 years, societal cost could be as high as £23bn a year.'* <https://tinyurl.com/bd5sm7sy> CleanAir UK could save £1.3 trillion over a 60-year period by improving ventilation in buildings.

Italian Schools study showing benefits of ventilation Compared transmission in 10,441 classrooms in Italy and found COVID infections much lower in 316 classrooms that had mechanical ventilation systems, and fewer cases with better air flow: 2.4 Air Changes per Hour, ACH, led to 40 % reduction in Covid infections; 4 ACH = 66.8% reduction; and 6 ACH equivalent to 10-14 litres of air per person per sec = 82.5% reduction <https://arxiv.org/abs/2207.02678>

Harvard Medical School estimates suggest 1 in 5 U.S. adults has or has had long COVID, with a cost in health expenses, lost productivity, and lost well-being of \$2.6 trillion: <https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2022.00991>

Apricot Tree Café, Canada: <https://www.apricottreecafe.com/>;

Belgian new law on air quality: <https://www.nature.com/articles/d41586-023-00642-9#ref-CR6>

French new laws: http://nousaerons.fr/regulations/nousaerons_french_regulations_co2_UK_v5.pdf

UK Petition · Call for a Public Space Ventilation Bill - we need Covid Safe Clean Air: <https://tinyurl.com/2p8zvcrx>

Davos Safe: https://www3.weforum.org/docs/AM23_Health_and_Safety_Measures.pdf