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Carbon Dioxide Monitors for Workplaces – Room for Improvement?

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A thought piece from Ralph Izod, Managing Director, Envelo

With news that colleagues are heading back to the workplace after restrictions lifted, many are leading the call for workplaces to be better ventilated. It is widely acknowledged that Coronavirus transmits in the main via airborne particles. Enclosed office spaces, kitchen areas and restrooms are the perfect breeding ground for transmission – of not just Coronavirus, but any virus – as colleagues move in groups from one room to another.

As part of this, some workplaces are installing CO2 monitors. If the levels rise, it's a sign that fresh air is not circulating and it's time to ventilate

But is this enough? And is it a practical initiative, one that can be accomplished by workplaces with relative ease?

I don't think it is. There are several things that have been not taken into consideration and, of equal importance, there are solutions that would really address the problem that have been completely overlooked.

Firstly, the issue of ventilation. If a workplace is based in a rural setting with little outdoor pollution including an absence of traffic fumes and noxious substances (Volatile Organic Compounds, Nitrous Oxides and PM2.5s as examples) then opening the doors and windows is a breeze. In with the fresh air, and in the spring – pollen, out with the virus. But consider this. As several scientific studies in the last 10 years have attested, outdoor contaminations can cause high air pollution inside, entering the building through the windows, doors, and ventilation systems. Workplaces directly adjacent to busy roads are likely to have

poor air quality in most areas if the air circulation system is not good. Opening the windows in these circumstances presents a moral conundrum.

Not every workplace has windows that can open or the ability to adjust ventilation and for those with a mixture, colleagues would move from one well ventilated room to another (for meetings) where the air quality is poor because ventilation is non-existent.

Consider too that whilst Coronavirus (amongst many transmissible illnesses) can spread via airborne particles, they can also spread through touch. So, a colleague carrying an illness can pass it on just by touching the surfaces they encounter as they move around the workplace, creating hundreds of contaminated touch points. No amount of ventilation is going to stop this. And whilst offices have (like most organisations) upped the ante on their cleaning regimes, unless surfaces have been coated with an anti-microbial coating that forms an invisible 'shield' thereby killing viruses and bacteria on contact for several weeks – it's not going to offer any defence after that first virus contaminated touch.

Understandablypeople are focussed on reducing the spread of Coronavirus. But this focus must extend to include the sum of the air quality too. That's because the indoor air quality is directly linked to a person's ability to concentrate and retain information – not to mention their wellness. Sick Building Syndrome, which has been the subject of many studies can cause colleagues to become sick with health problems which invariably link back to particulates – dust, airborne dirt, bacteria, mould, and mildew. Volatile Organic Compounds – gaseous chemicals from building materials, carpets and furniture, ozone from the photo copier and other office equipment – are high on the list of undesirables.

Continuous exposure to these conditions can cause a myriad of health problems including flu-like symptoms, nausea, headache, lethargy, and hypersensitivity. In the most extreme cases they can cause cancer and worsen pre-existing asthma.

So, offices can now measure the CO2 in a room but so what? What should they do if a ventilation upgrade is not practical? And if the readings are high despite ventilation, what are the next steps?

It continues to astonish me that the whole subject of air purification and long-lasting surface protection has not been discussed more. Use both and not only will Covid particles be reduced but almost all viruses, mould, bacteria, and VOCs too. There are a lot of smart, and affordable technologies and products to help office managers make their spaces safe, healthy and virus free 24/7.

The debate within businesses must be had because CO2 monitors alone are not the cure all I believe they are being made out to be. But at least the awareness has started.

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Image credit: Ralph Izod