Ventilation

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For many years there has been a legal requirement for 'a sufficient quantity of fresh or purified air' in the workplace. The obligation is for business owners to ensure that the staff and visitors to their premises should find the environment adequately ventilated.[1]

COVID-19 spreads from person to person via both droplets and aerosols. For the virus to successfully infect a new victim, that individual has to be exposed to an adequate quantity of infectious viral particles to create an effective loading dose. Masks help to filter out some viral particles; handwashing, ultraviolet light and virucidal agents weaken or destroy others; whilst fresh air circulation can dilute the concentration of particles that might otherwise represent a loading dose.

Dental aerosols

It has been long recognised that a number of dental procedures generate aerosols. Indeed, the HTM 01-05 decontamination guidelines first introduced in 2009 and revised in 2013 presented a best practice standard that primary care dental practices were expected to produce a plan towards achieving.[2] This pragmatic approach seemed to be tacit recognition of the spectrum of business models that practice owners would have to modify to incorporate the costs of improvements, including ventilation:

'*Ventilation and air quality are important considerations. In non-purpose-built facilities, the control of airflow is a challenging issue. Responsible persons will need to consider how good standards can be achieved without resorting to unreasonably complex or expensive ventilation systems. Through-wall fan-based ventilation and extraction units will often be useful in this context. In particular, cassette-based systems can be simple to install and produce a balanced airflow at low cost.*'

The pace quickens

Following the start of the pandemic, greater urgency to improve dental surgery ventilation was expressed by the CDO (England) in her letter of 28 August 2020.[3]

The letter linked to the COVID-19: Infection prevention and control dental appendix, which references the previously mentioned Workplace Regulations:

All enclosed workplaces must be ventilated by natural or artificial means as set out in the Workplace (Health, Safety and Welfare) Regulation. UK building regulations recommend whole building ventilation to be 10 l/s/person and current healthcare guidance for new buildings and major refurbishments specifies that a treatment room should have at least 10 air changes per hour (ACH)... Specialist advice should be sought on how best to achieve the recommended air changes. It is recognised that transitional arrangements may need to be in place to support dental practices where air changes are unknown or below this recommended level.'[4]

Not everyone has a window

In light of COVID-19, there is certainly a focus on 'ventilation' and, while it is good practise (bordering on 'law') government advice has yet to enforce it; possibly because it is recognised that many practices have no external windows and that ventilation systems are expensive. The profession finds itself in a similar situation to the 'best practice' concept of HTM 01-05, where centralised decontamination is presented as best practice and, in order to demonstrate intentions, the practice has to have a written plan and timeline for implementation.

In the absence of any additional government funding, working towards best practise would seem to be a sensible approach, particularly if the vaccine programme effectively reduces the incidence of new cases for now. But if you subscribe to the view that this will not be the last virus to impact the population, perhaps you have already considered the options for improving ventilation in your own situation before legislation makes it obligatory or enforcement of the current legislation is tightened.

The cost

A business recovery loan is one way to cover the cost. In addition to purchasing suitable equipment, you will need to factor in other things, such as carpentry and engineering work as well as an annual inspection to check the filters.[5]

In Wales, around £450,000 has been made available by the Welsh Government for ventilation systems and this will be split across the various health boards and GDPC want to see that all practices are able to apply, in particular those who have already invested.

In Northern Ireland, BDA has undertaken a survey and the results indicated that costs for ventilation there would be around £3-3.5k per surgery. There is an NHS GDS underspend there and the BDA has successfully lobbied for £1.5m to be used for surgery ventilation.

In Scotland, the Government admitted that 'ventilation is a fundamental part of the COVID armoury' and that the First Minister was looking into what Wales and Scotland might be doing. But if the profession pushes too much for the funding to provide practice ventilation, those holding the funds might consider new legislation (or rigorous enforcement of the current rules) to be more cost effective. ◆

Acknowledgement

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