Cyflwynwyd yr ymateb i ymgynghoriad y Pwyllgor Iechyd a Gofal Cymdeithasol ar y effaith pandemig COVID-19, a'i reolaeth, ar iechyd a gofal cymdeithasol yng Nghymru

This response was submitted to the Health and Social Care Committee consultation on the impact of the COVID-19 pandemic, and its management, on health and social care in Wales

COV 14
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Open the window

Why the Welsh Government needs to invest in ventilation for the Welsh NHS Estate

The Welsh Government acknowledges COVID-19 is spread by airborne transmission, close contact via droplets and via surfaces. Airborne transmission is a very significant way that the virus circulates.[1][2] There is evidence to suggest the spread of COVID-19 is higher in areas of poor ventilation.

There is a need to adapt and change our internal healthcare environments to reduce the impact of COVID-19 and other airborne diseases. The Welsh Government have put in place systems for education settings to improve ventilation and monitor air quality[3]. The Welsh Government now needs to commit to doing this for health settings.

[1] Coronavirus: how to stay safe and help prevent the spread - GOV.UK (www.gov.uk)
[2] https://gov.wales/together-well-keep-wales-safe
[3] https://gov.wales/fresh-start-new-term-investment-help-improve-air-quality-schools-colleges-and-universities

This document will focus on ventilation within the NHS estate. However we recognise ventilation in social care settings is equally as important and needs investment and action.

Recommendations for the Welsh Government

1. Establish a long term investment plan for improving ventilation across the NHS estate. As an initial step this should include assessment of current air quality through the provisional funding for CO2 monitors.
2. Invest in consultant nurses in Wales to support the updating of the estate and supporting infection prevention and control.

What is ventilation and why is it important?

Ventilation is the process of replacing stale air with fresh air. This can be done naturally, by opening a window, or mechanically, through a ventilation system using fans and ducts.

Ventilation is used in health and care settings to provide a safe and comfortable environment for patients. More specialised ventilation is provided to help reduce infection risks via air in areas such as operating departments, critical care facilities, isolation rooms and primary patient treatment areas.[4]

Healthcare buildings are continuously occupied by patients and staff, intensively used and because of the specialised nature of the facilities it may be extremely difficult to provide the service elsewhere.

Ventilation is important in controlling the spread of airborne diseases, such as COVID-19. As a Group 3 biological hazard, SARS-CoV-2 (the virus that causes COVID-19) NHS employers are accountable under health and safety law, specifically the Control of Substances hazardous to health (COSHH) to assess and manage the risk of exposure to healthcare staff. The RCN has developed a Risk Assessment toolkit to support employers and staff manage the risk of COVID-19 in the workplace.[5]

As an airborne pathogen, the risk of infection also exists for patients, which when acquired as a direct result of care is classified as a healthcare associated infection. The importance of ventilation as one aspect of managing airborne infection risk has been recognised by the Welsh Government

[4] https://www.england.nhs.uk/wp-content/uploads/2021/05/HTM0301-PartA-accessible-F6.pdf
[5] https://www.rcn.org.uk/clinical-topics/infection-prevention-and-control/covid-19-workplace-risk-assessment-toolkit

What is the current ventilation system?

Many NHS buildings have narrow hallways, small rooms and windows that cannot be opened, this eliminates the possibility of natural ventilation. The NHS is therefore reliant on mechanical ventilation that, if present, may not have been updated in a number of years.

The Specialist Estate Service have provided a document with a suite of guidance regarding ventilation published during the COVID-19 pandemic[6]. This includes the Health and Safety Executive who have issued guidance to help organisations identify poorly ventilated areas, decide on the steps to take to improve ventilation and assess the risk from breathing in virus particles (aerosol transmission) in enclosed areas.[7]

The guidance gives Health Boards a clear standard to strive towards and support in assessing and managing ventilation. However, to our knowledge there is no national framework to monitor if assessments are being completed and what actions are being taken to improve the situation in Wales. The Welsh Government should ensure mechanisms are in place to act upon information regarding poor ventilation and provide investment if needed.

To understand if the ventilation systems in the NHS estate are adequate in reducing the transmissibility of airborne illnesses and reducing poor air quality it is important that data is gathered through the use of CO2 monitors in the first instance.

Why are CO2 monitors important?

People exhale carbon dioxide (CO2) when they breathe out. A build-up of CO2 in an area can indicate poor ventilation. CO2 monitors provide a helpful proxy indication of whether natural and/or mechanical ventilation needs to be improved.

In 2021 the Welsh Government invested £2.58m in 30,000 CO2 monitors for education settings to aid the management of ventilation systems (as seen in the picture). There are different types of portable CO2 devices but the most effective is a non-dispersive infrared (NDIR) CO2 monitor. This is the type the Welsh Government has funded for education settings.

[6] https://nwssp.nhs.wales/ourservices/specialist-estates-services/specialist-estates-services-documents/specialist-estates-services-notifications-sesns/sesn-21-16-covid-19-and-mitigating-airborne-transmission-in-healthcare-settings-ventilation-guidance-updates/

[7] https://www.hse.gov.uk/coronavirus/equipment-and-machinery/air-conditioning-and-ventilation/index.htm

Within the guidance regarding the use of CO2 monitors in education settings it explains that it is '*the duty in law [*Health and Safety at Work etc Act 1974] *to take reasonable measures applies to the person or persons responsible for premises open to the public and on the person responsible for the work being undertaken in any workplace; that is the person responsible for management control of the premises'*.[8] It is the responsibility of those in control of premises (head teachers, chief executives, care home owners, etc) to ensure good levels of ventilation are maintained.

Why are consultant nurses important for improving ventilation?

Consultant nurses hold extremely senior posts. Their role encompasses clinical practice, education, research and clinical leadership. Infection prevention and control consultant nurses provide expert knowledge and guidance for health boards. As 'system' leaders, IPC consultant nurses consider a holistic approach to the prevention of infection, acting as a bridge between public health, health protection and science.

Investing in IPC consultant nurses would ensure Wales has the resources available to provide expert knowledge across systems; it would also ensure that Wales has the resources available to educate the next generation of health professionals. These posts would also facilitate the sharing of expertise at a senior level across national boundaries. This would elevate the status of IPC nursing and the Welsh contribution to it. To invest in IPC nurse consultants is to invest in the whole system and to place infection prevention and control rightfully at the centre of health and social care.

What can the Welsh Government do?

Health Board's require additional investment for improving ventilation.

It is no doubt that the NHS estate is in need of investment. In September 2019 it was reported that NHS buildings needed £261m worth of maintenance work on problems deemed to pose a high or significant risk. There is also a combined total of £560m maintenance backlog.[9]

However, the Welsh Government's draft budget for 2022/2023 has reduced the health and social care capital spend by £52.6m from £381m to £335m.[10] The indicative budget for 2023/2024 will increase the capital spend (to £375m) but it still remains lower than the 2021/2022 spending allocations (£387m). With a shrinking capital budget, health board's need to prioritise immediate venue spend on issues deemed to pose a significant risk.

[8] https://gov.wales/sites/default/files/publications/2021-10/carbon-dioxide-monitors-education-settings.pdf
[9] NHS hospitals and buildings' £261m backlog of urgent repairs - BBC News
[10] https://gov.wales/sites/default/files/publications/2021-12/2022-2023-draft-budget-narrative.pdf.pdf

The Welsh Government must ensure national leadership on ventilation and support health boards by providing funding for CO2 monitors as an initial step. Following this, and the gathering of data, the Welsh Government must set out a long term plan to improve ventilation across the NHS estate.

About the Royal College of Nursing (RCN)

The Royal College of Nursing is the world's largest professional organisation and trade union for nursing, representing over 465,000 nurses, midwives, health visitors, healthcare support workers and nursing students, including over 27,000 members in Wales. RCN members work in both the independent sector and the NHS. Around two-thirds of our members are based in the community. The RCN is a UK-wide organisation, with National Boards in Wales, Scotland and Northern Ireland.

The RCN represents nurses and nursing, promotes excellence in nursing practice and shapes health and social care policy.