



COMMUNICATION SYSTEMS – AIRBORNE INFECTION CONTROL & ACCESSIBILITY IN HEALTHCARE

Wear a Mask, Socially Distance, Clean your hands...

Reflecting on the Governments' initial public health messaging, many at the time would be forgiven for thinking their recommendations were radical and out of touch. To healthcare professionals used to operating in environments where potentially contagious diseases present a daily risk, these "new" measures were already long-accepted standards considered to be the most effective methods for preventing the transmission of airborne infection.

When we consider then how ineffective the western world's health facilities proved in coping throughout the pandemic, the need to re-evaluate the available strategies becomes apparent.

What We're Currently Working With.

Currently, Western health systems have three main infection control approaches.

Administrative Controls

Focusing on educating staff and patients on hygiene best practices, including cough etiquette, infection segregation, triage communication practices and ensuring facilities are used for their intended purpose.

Personal Protection Controls

Wearing Personal Protective Equipment (PPE) such as gloves, masks and respirators.

Engineering and Environmental Control Measures

Inherent design features of buildings aimed at reducing the concentration of airborne particles in high-risk areas (e.g. outpatient and inpatient departments, anti-retroviral centres and negative pressure rooms) and encompassing technology such as HVAC (heating, ventilation and air conditioning) and Ultraviolet Germicidal Irradiation systems which are costly and disruptive technologies to retrofit (1).

What Are We Doing About It?

Conversations surrounding improving infection resilience are well underway, with careful financial and logistic consideration being given to upgrading existing infrastructure and new building design. While many experts believe that long-term solutions will require costly improvements to health facilities HVAC systems and engineering controls, the short-term impacts on daily operations and patient ramifications are harder questions to answer (2). It's necessary then to explore alternate cost-effective solutions while navigating this transition.

When observing how other industries adapted to evolving health restrictions, many customer-facing organisations widely adopted the use of physical barriers like Perspex screens. This is because physical barriers have been shown to reduce the likelihood of infection by up to 72%*, while barriers without any openings are even more effective (3)(4). The introduction of barriers, however has led to growing communication problems resulting in many screens being rendered redundant by the drilling of holes, cutting of speaking ports or customers leaning around barriers to hear. It's consequently the implementation of simple communication systems that can provide effective, low-cost solutions to infection control.

What is the Solution?

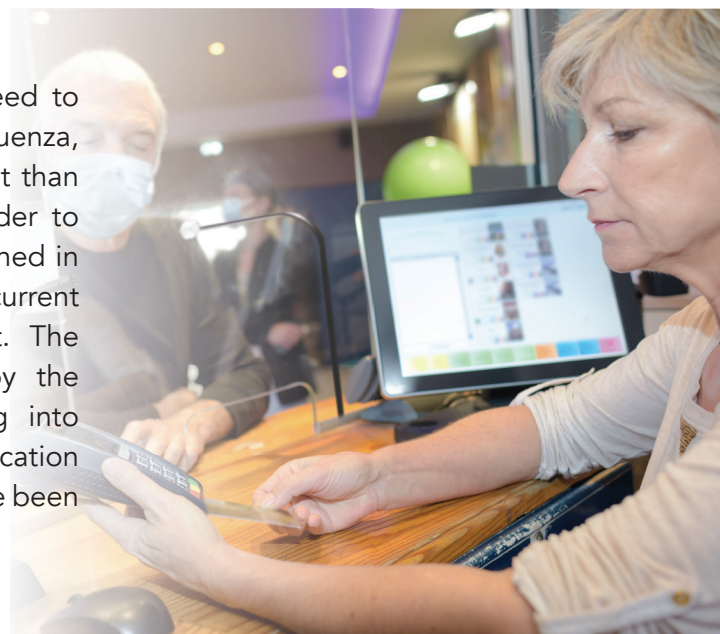
Window Intercom Systems (also known as Speech Transfer Systems) are inexpensive technologies designed to provide clear communication in situations where normal speech is impaired by the glass, Perspex or other barriers. Consisting of one speaker and microphone positioned on either side of a partition, these systems transfer speech in a natural way which does not amplify speech beyond normal hearing levels and is often supplied with under-counter hearing loops providing access to the hard-of-hearing. Being relatively undisruptive technologies to install, health facilities around the world are beginning to adopt these solutions as a means to expand their existing infection control practices and improve methodologies surrounding infection segregation and triage communication while reducing the concentration of airborne particles across wards, ER departments and isolation rooms.

Health Facility Case Studies:

- NHS (UK)
- Welland McMaster Health (USA)
- Hamstead Health (AUS).
- <https://contactainc.com/case-studies/welland-mcmaster-health/>
- <https://www.contacta.co.uk/case-studies/breaking-the-sound-barrier/>
- <https://www.contacta.co.uk/case-studies/exertis-pro-av/>

Conclusion

As we enter the endemic stages of the pandemic, the need to remain vigilant against other airborne diseases like influenza, chickenpox, whooping cough and COVID is more important than ever in ensuring the quality of healthcare available. In order to better prepare and ensure healthcare standards are maintained in the event of another pandemic, the need to reassess our current health systems' infection control resilience is paramount. The solutions required to address the problems exposed by the pandemic will require a multi-pronged approach, taking into account all available measures from HVAC to Communication Systems and ensuring all cost and logistic considerations have been taken into account.



Why I Recommend Contacta Window Intercom Systems

The pandemic has meant that window intercom technologies are now seen in more industries than ever before. This demand has seen an increase in cheap imitation brands that experience a range of reliability and performance issues unsuitable for healthcare environments.

Manufacturing Window Intercom Systems since 1985, Contacta is known globally for their reliability, quality, performance and industry experience. Offering a more extensive range of mounting solutions and speaker/microphone options than any competitive brand Contacta will have a solution for any scenario. Contacta also specialises in hearing augmentation to ensure you are up to industry standards when installing a counter hearing loop.

You will find Contacta products in businesses as diverse as NASA's Kennedy Space Centre, The London Underground, The Statue of Liberty Museum and countless Supermarkets, Hospitals and Banks around the world.

AVW Group distributes Contacta Window Intercom Systems exclusively in AUNZ.

*Based on installing a screen between 40cm and 70cm above desk level in an office environment.

References

1. (PDF) Airborne infection control in health care facilities: effecting change (researchgate.net)
2. <https://www.aurecongroup.com/insights/covid-19-preparing-health-facilities>
3. Do plexiglass barriers reduce the risk for transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)? - PubMed (nih.gov)
4. Mitigating COVID-19 infection disease transmission in indoor environment using physical barriers | Elsevier Enhanced Reader



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