HEALTH AND SPORT COMMITTEE

HEALTH HAZARDS IN THE HEALTHCARE ENVIRONMENT

SUBMISSION FROM BMA SCOTLAND

The BMA is a professional association and trade union representing and negotiating on behalf of all doctors and medical students in the UK. It is a leading voice advocating for outstanding health care and a healthy population. It is an association providing members with excellent individual services and support throughout their lives.

We welcome the opportunity to comment on the Health and Sport Committee’s call for views on Health Hazards in the Healthcare Environment. Taking the questions in turn.

What is the scale of health problems acquired from the healthcare environment in Scotland?

Infections acquired directly from the healthcare environment are generally small in number.

When they occur, the outbreaks can be of severe infection and as a result of significant public concern. There is also a significant risk of prosecution for breach of Health and Safety Law.

The control measures required to prevent infections are large in scale. For example, every tap and showerhead in a health care building requires risk assessment, and regular maintenance to control the risks of Legionella and Pseudomonas.

As infections are rare, the costs to prevent one infection are high. In an adequately designed, built and maintained hospital most of the risks are successfully minimised by engineering controls. For example, infections associated with faulty operating theatre ventilation systems are rare.

As a result, with well-engineered and maintained buildings, with sufficient staff to deliver healthcare, the risks should be low. In a system under financial pressure, with staffing levels often stretched thinly and a significant maintenance backlog, the risks can begin to rise and infection, while still relatively rare, can be more common.

What/where are the main risks?

The risks that are associated with the healthcare environment and are difficult to control include:

- Fungal infections with aspergillus can arise in immunocompromised patients if dust is not controlled during building works. Although there
are established solutions to this problem the additional costs e.g. prophylactic drugs for patients may not be factored into building projects.

- **Water systems** – taps, sinks, showers are risks for water borne pathogens such as legionella and pseudomonas. There are vulnerable groups as high risk of pseudomonas infections such as neonates, haematology/oncology patients and ITU patients amongst others. There is good guidance on how to assess and manage the risks of water borne pathogens. The scale, age and complexity of hospital water systems can require significant resources to manage this risk.

- **Wet cooling towers**, which are a risk for Legionella, have not been installed in hospital buildings for many years. There may still be a few relic systems left over in older buildings. If there any in use there are strict regulations to ensure they are used safely.

- **Ingress of pests** such as pigeons or insects can cause a great deal of alarm and disruption to a health facility until they are controlled. However, infections acquired from pests are rare.

- **As mentioned above the risks from operating theatre ventilation** are usually well controlled in modern hospitals. However, older hospitals can have problems that stem from a ventilation plant’s finite life span of 15 to 20 years. As a result, it can be difficult and disruptive to replace such systems.

Are the current systems and processes in Scotland adequate for monitoring, reporting, eliminating or controlling these hazards?

While the support from Health Facilities Scotland, Health Protection Scotland and for some matters from Public Health England is excellent, there are several concerns with the systems and processes in place. This remains within the context of infections that are the result of the Healthcare Environment continuing to be relatively rare. Problems occur with:

The funding and space for new healthcare buildings or refurbishment is not adequate for the project.

For example, the Queen Elizabeth Hospital in Glasgow is reported to have fewer beds than the buildings it replaced. The rising clinical need of the community would have been met better with an increase in beds.

An underfunded budget often leads to a desire to squeeze the maximum clinical capacity onto the site within the budget. This can lead to compromises

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1 See following article: [https://www.bmj.com/content/352/bmj.i1267](https://www.bmj.com/content/352/bmj.i1267)
being made which may not work out as most effective for delivery of care, or to minimise infection risk, in the long term.

In such situations there is a great deal of pressure to save money on non-clinical areas such as engineering facilities. As an example, it has been widely reported the Edinburgh Royal Infirmary was built with inadequate air conditioning to control excess heat².

Other risky situations that arise from inadequate capital budgets include:

a) Temporary buildings are put in and used beyond their design life. It can be difficult to maintain the integrity of these buildings as they age.

b) Older buildings are repurposed when the building does not have sufficient space in an appropriate configuration to meet modern standards. For example, repurposed old buildings may not have as many single rooms as new builds.

Another unintended consequence of a reduction in and therefore pressure on beds is that this can often mean the turnaround time between a patient being discharged, and then required for another patient is often extremely short. This can lead to pressure on the cleaning and preparing of beds for new patients, and potentially the job not always being done to the highest possible standards.

**Expert advice for building projects.**

It is an uncommon event for an infection control team to oversee a major build – although they are often consulted as the project progresses. However, there may not always be enough time and experience to optimally deliver this input despite expert knowledge clearly being needed.

Added to this, the NHS experts and the builder’s experts often don’t agree on points of design and how this may relate to infection risk. Anecdotally this has contributed to delays in building projects and increased costs. Although advice from Health Facilities Scotland is appreciated there are occasions where the advice was not prescriptive enough to solve the problem.

NHS Scotland should consider developing a national expert service to provide infection control oversight of new building projects. NHS experts who follow the work around and provide extra capacity on top of the local infection control team might be a more efficient way of supporting major projects and ensuring infection control is taken into account.

² See following article: [https://www.edinburghnews.scotsman.com/news/claims-royal-infirmary-was-built-on-the-cheap-as-staff-left-with-no-air-con-1-4774608](https://www.edinburghnews.scotsman.com/news/claims-royal-infirmary-was-built-on-the-cheap-as-staff-left-with-no-air-con-1-4774608)
The lack of standard designs for hospitals

Design fees of 16 per cent of the building costs have been reported for some hospital projects. As a result, standardization could save money and time.

Health Facilities Scotland are to be commended for their new approach to operating theatre design which is aims to be a set of standard designs to be copied, as opposed to a set of standards which are reinterpreted in every building.

Other standard modules that could be developed to be fitted into a building shell customized to the location include standard designs of wards or outpatient clinics.

Working in this way would ensure standard and approved infection control measures would be come standard and not subject to local variation or design.

Many health boards have maintenance backlogs of the order of tens of millions of pounds.

The large numbers of buildings operated by a health boards is a challenge, particularly at a time when demand for care outstrips the resources available to deliver that care. That can often mean that substantial savings are required in overall budgets, and backlog maintenance overlooked or delayed.

Many buildings are of old designs and some were not even built as healthcare facilities, for example GP premises in converted houses. Some buildings no longer have detailed plans available, which makes maintenance a challenge. These buildings often did not have infection control as part of their design, or infection control measures are rendered less effective by the lack of maintenance.

In its most recent report on the state of the NHS, Audit Scotland found that: “In general, however, the budget has been declining over the past ten years. Backlog maintenance remains significant across the whole estate at £899 million in 2017/18 and a number of hospitals and other health facilities will require significant investment to ensure they remain fit for purpose.”

There is of course an obvious connection between poorly maintained buildings, and higher risks of infection in those buildings – whether that be as a result of contamination of the water supply, or animal infestations.

Infection control teams are overstretched and under resourced

The consultant workforce across Scotland is stretched and vacancies are high, and that is true for doctors whose job includes infection control. This is

of course true not just for doctors, but is also the case for those across the workforce who have responsibility for infection control.

Nurses and others when they find themselves looking after more patients than they have time to safely creates a situation where cross infection becomes increasingly likely.

Added to this, across Scotland the BMA believes that many infection control teams lack the capacity to deliver the amount of resource that inputting time into a major project needs.

Monitoring the state of the built environment is an area that may be neglected in response to either the latest crisis or to the latest Scottish Government directive.

The Scottish Government has a track record of creating mandatory infection control programs without additional resources. One of the programs that is puzzling is the mandatory surveillance of E coli bacteremia which was introduced without additional resources and after English experience showed it to be of dubious value.

The knowledge required support infection control in the built environment is not taught in the standard nursing or medical curriculum. There are excellent courses run by the Hospital Infection Society – however these are not cheap. The course on hospital ventilation costs over £1600 including travel. The study leave budget for a trainee Infection Control Doctor in Scotland is £500 a year. Most infection control nurses and scientists have no budget for study leave.

Some health boards should be praised for creating specialist nurse or scientist posts in the infection control team in order to develop the knowledge and experience required to deal with the problems of buildings and building works.

As mentioned above there may be an advantage for creating national expert posts to ensure that experience and expertise is shared across the country and additional support is provided to infection control teams to deliver major projects.

Different Scottish and English Guidance for healthcare premises

Private building operators and charities may be following English Guidance on healthcare premises as this is the standard their parent organizations are used to.

As well as causing confusion and duplication of effort, separate Scottish guidance makes it harder to get external experts and training just for the small Scottish market. There should be a consideration of whether Scottish guidance for healthcare premises really needs to differ from the English guidance.
CONCLUSION

In summary the controls in place could be improved – although good support is available from the Scottish expert bodies.

The main problems are:

1. Insufficient resources to build new buildings or adapt existing buildings.
2. A lack of resources for the facilities teams to deliver the day to day tasks required and deal with maintenance backlog.
3. A lack of resources and expertise in infection control teams.

Added to this, key minor factors are the existence of different standards in England and Scotland and the inadequacy of study leave funding for infection control nurses, scientists and trainee infection control doctors.

Innovative solutions to consider:

- There may be scope to create NHS Scotland experts in infection control in buildings who follow the work around as opposed to leaving major projects to the ad hoc capacity of the local infection control teams.

- There may be scope to save money and time by introducing national standard designs of healthcare buildings.