HEALTH AND SPORT COMMITTEE

HEALTH HAZARDS IN THE HEALTHCARE ENVIRONMENT

SUBMISSION FROM NHS FIFE

Introduction

In February 2019 the Scottish Parliament Health and Sport Committee launched a short inquiry on Health Hazards in the Healthcare Environment in Scotland. The inquiry was initiated following events at the Queen Elizabeth University Hospital in Glasgow.

The inquiry called for written responses to the following three questions:

1. What is the scale of health problems acquired from the healthcare environment in Scotland?
2. What/where are the main risks?
3. Are the current systems and processes in Scotland adequate for monitoring, reporting, eliminating or controlling these hazards?

Health hazards associated with the healthcare environment may be wider than infectious diseases (for example, falls hazards) and healthcare settings include a wide range of independent practitioners in the community such as GP surgeries, dental surgeries, independent nursing homes and community pharmacies. Given the context of the inquiry, our responses to the questions below focus on infectious diseases that may be acquired from the physical environment within acute and community healthcare settings delivered by NHS Fife. Whilst the infectious disease associated risks due to the healthcare environment are important, from an estates and facilities perspective the wider non-infectious physical risks associated with a lack of capital funding and a maintenance backlog are of significant concern.

It should also be noted that local and national systems for the monitoring and control of Healthcare Associated Infections (HAIs) consider transmission of infection from non-environmental sources within the healthcare setting, such as direct spread from other patients or staff, but we have not focussed on these transmission pathways in our response.

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

Infections that are potentially acquired from the healthcare environment within NHS Fife are identified and investigated either as a result of sentinel surveillance (e.g. testing water samples for Legionella species), or through a clinical result. Further investigation will then follow as appropriate. For example, an increase in cases of ventilator-associated pneumonia among ICU patients due to the bacteria Pseudomonas aeruginosa would trigger further genomic typing of isolates to see if they are linked, and sampling to see if any the infection can be identified in the physical environment.
In the last 3 years, NHS Fife has not identified any incidents of infections that have been acquired from the physical healthcare environment. It is very likely that there will be differences in the scale of the problem between boards as the most vulnerable patients are often cared for in tertiary referral centres outside Fife. For example, NHS Fife refers all patients with burns and all adult cystic fibrosis patients for treatment in neighbouring boards and does not undertake any transplant surgery.

The only routine surveillance samples that are taken from the physical environment are water samples which are tested for *Legionella* species.

**What/where are the main risks?**

- Ventilation
- Water
- Decontamination
  - Especially of endoscopes and other locally decontaminated equipment. This is because of the need to guarantee the process, consistency and adequate training of staff.
- New builds and refurbishments
  - In particular, the Aspergillosis risk associated with any demolition or renovation work such as removing and replacing ceiling tiles
  - Ensuring consistency of guidance for engineers and building contractor

Any problem in the physical environment will be of particularly high risk within healthcare areas which are dealing with patients with impaired immune function, e.g. intensive care units or renal dialysis unit. As such there is greater scrutiny of these areas than other areas within the healthcare setting.

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

**Adequacy of local systems oversight**

Whilst there are multiple routes of monitoring, reporting and implementing control measures for healthcare associated infections, it is important that there is adequate oversight of these locally. Without this, there is a high risk that such activity can provide a false sense of security. Within NHS Fife, due to a retirement, we do not currently have a consultant microbiologist (or alternatively, an environmental scientist with microbiology training) who has time allocated within their role to work with the estates department to provide an oversight function. Whilst recruitment of a microbiologist with this remit within their job plan is being progressed, the process has been delayed.

While the systems are working well this is not an issue, but when problems arise or new equipment is required engineers need direction from an individual with microbiological knowledge. We have concerns that this issue will be exacerbated nationally as the
restructuring of microbiology training (whereby trainees now undertake joint training in microbiology and another specialty) means that they receive significantly less training in infection control and are therefore less keen to take on infection control responsibilities as a consultant.

Being aware of the above is important because it helps identify the hazards for which there is limited risk mitigation strategy. For example:

- There is currently no one with microbiology training sitting on the NHS Fife Water safety group to oversee water testing in the hospital setting.
- There is no one with microbiology training to review the rinse water quality for decontamination processes. While the endoscopy manager provides this function, someone with microbiology training is required when the endoscope washers are replaced.

**Adequacy of national systems oversight**

At a national level the current HAI framework used by the Healthcare Environment Inspectorate (HEI) covers nine key areas. Standard 8 covers decontamination, and whilst the standard states that ‘infection risks associated with the built environment are minimised’, there is limited detail within the criteria on the standards expected of wider facilities functions such as water or ventilation. Instead the focus is on ensuring cleanliness of equipment, devices and the care environment.

Health Facilities Scotland (HFS) provide detailed technical specification guidance on multiple areas of the physical environment (water, waste, decontamination etc), however there is currently limited join up between these specification documents and the areas of scrutiny covered by the HAI framework and HEI visits. Whilst checks against these specifications documents may be carried out at the time of a new building project, there are not clear systems in place to ensure these standards are being maintained in the existing healthcare built environment, or clarity on where the responsibility for infection prevention aspects of these standards lie.

Separately to the HEI reports, HFS provide quarterly facilities monitoring reports with board level data on the performance of cleaning functions carried out by domestic and estates staff (based on self-reported audit of rooms). The introduction to these reports states:

> “In the context of this report, ‘estates’ reporting refers to issues with the fabric of the building which impede effective cleaning activity. **This report does not present information on the whole of the estates function e.g. water systems, heating, ventilation etc across all healthcare facilities.**”

*(NHS Scotland National Cleaning Compliance Report, Domestic and Estates Cleaning Services Performance 2018/19, Quarter 3 October 2018 – December 2019; p1, emphasis added. Available at [www.hfs.scot.nhs.uk](http://www.hfs.scot.nhs.uk)* )
This highlights the current gap in national systems of monitoring or reporting for the wider estates function, in particular the risks associated with water and ventilation systems within healthcare facilities.

**Summary**

There is no evidence that there has been a significant problem with infections acquired from the NHS Fife healthcare environment in recent years.

However, monitoring, reporting and managing these risks requires a significant investment of time and expertise from those with microbiological training working alongside estates and facilities colleagues with the required technical knowledge.

Whilst we are currently taking steps to fill a vacancy in our microbiology team to cover this remit, we are concerned at the longer-term gaps that might arise due to changes in microbiology training that have taken place nationally.

We also recognise that currently there is limited monitoring and reporting of our existing water and ventilation systems (beyond sampling for *Legionella*) in place locally, and we would welcome a clarification of the standards expected by both the HEI and HFS. Elimination of these risks will require significant capital funding.