Sue Horvath (s.horvath@nhs.net)
Senior Nurse Infection Prevention,
Leeds Teaching Hospitals Trust

The Leeds Teaching Hospitals NHS Trust

Use of improvement methodology to streamline infection prevention environmental audits to ensure patient safety by reducing the risk of transmission of infection from the environment

1. Introduction

The Health and Social Care Act (2008) (1) - (Updated regulations 2014) stipulates that Healthcare facilities should:

provide and maintain a clean and appropriate environment in managed premises that facilitates the prevention and control of infections.

In 2011 Infection Prevention & Control (IPC) and Estates & Facilities collaborated to carry out audits together. However, it became clear that coordinating all the stakeholders added a level of complexity and, along with time constraints it meant that not every clinical area was audited.

In 2017 IPC used quality improvement methodology to review the process - ensuring removal of 'waste' and a focus on quality for the patient.

Evidence from RCA investigations identified that aspects of the environment had played a role in the transmission of infection. The existing Facilities audit was reviewed to identify key areas that were already being monitored effectively and any duplication (waste) was removed.

The IPC audit tool was streamlined to include only aspects of the environment that could impact on transmission of infection identified from local evidence with the ultimate goal of keeping patients safe from infection.

2. Method

All inpatient clinical areas were audited by a member of the Infection Prevention Control Team across the year 2018/2019. Once the audit was completed, a report was emailed to the Ward Manager and Matron for the area, with a summary of the findings and a list of actions to be completed locally and an expectation that this would be fed back and discussed within the Clinical Service Unit Governance structure

Audit Criteria

	Question	Guidance
Chairs	Is the chair made of impermeable and washable materials?	
	Is the chair in a good state of repair?	Free from rips, tears, cracks, holes
Pillows	Do pillows have a sealed impervious cover?	
	Are pillows visibly clean	Check visually for staining/soilage
	Are pillows in a good state of repair?	Free from rips, tears, cracks, holes
Mattresses	Are mattress covers made of impermeable and washable materials?	
	Are mattress covers in a good state of repair	Check cover externally and internally for rips, holes, tears
	Is the mattress visibly clean	Check cover and internal mattress for visual staining/soilage
	Is there a programme for regular checking mattresses	
Bathrooms	Is the room free from extraneous items?	E.g. wheelchairs, drip stands, equipment/supplies
	Are all toiletries single use?	Check for evidence of communal toiletries in the bathroom
	Is the environment free from any visible damage?	
	Is furniture made of impermeable and washable materials?	
Sluice	Is the environment free from any visible damage?	
	Is furniture made of impermeable and washable materials?	
	Is the room free from clutter and Inappropriate items?	Check that inappropriate items are not stored in the sluice which might become inadvertently contaminated

3. Results

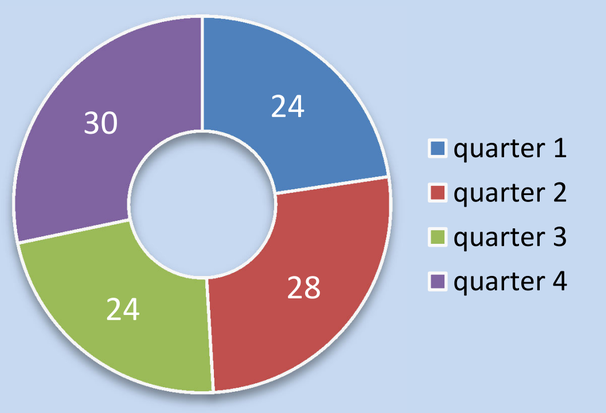

Figure 1 Number of clinical areas audited by quarter throughout the year2018/19

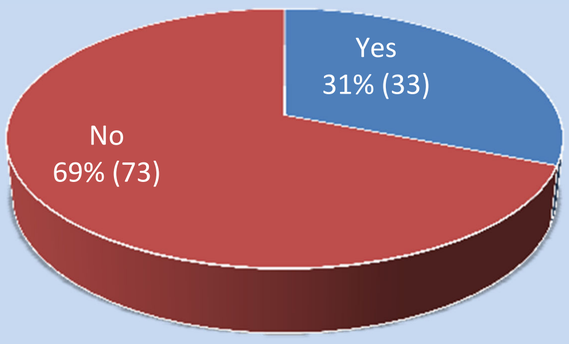

Figure 3 Does the ward have a regular programme for checking matresses?

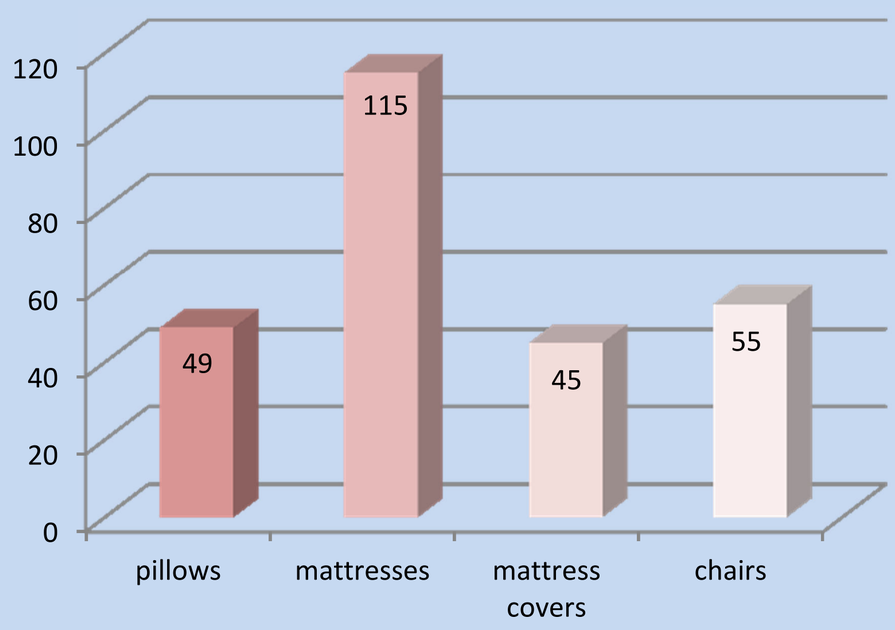

Figure 2 Number of items condemned across the clinical areas audited

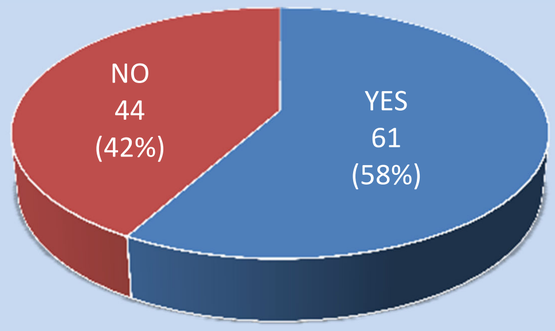

Figure 4 Sluice free from extraneous items across the Trust

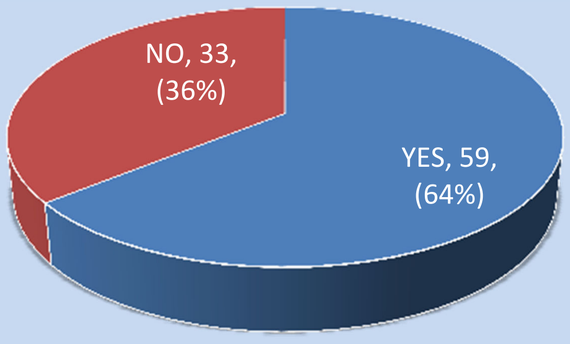

Figure 5 Bathrooms free from extraneous items across the Trust

4. Discussion

- 106 out of 107 clinical wards were audited (99% of all inpatient areas) (Figure 1)
- Not all staff were aware of the role that the environment has to play in the transmission of infection.
- There were a significant number of items in the clinical environment that were damaged and soiled and required disposal - 49 pillows, 115 mattresses, 45 mattress covers and 55 chairs. (Figure 2)
- Nearly 70% of wards did not have a programme for regularly checking mattresses despite there being research evidence that mattresses have been implicated in the spread of infection[2]. (Figure 3)

Example of contaminated mattress and cover

- 115 mattresses were condemned as part of the audit versus 45 mattress covers. If there is a regular programme for checking mattresses, any breach in the cover can be picked up promptly, resulting in only the cover being changed. There is a significant cost difference between these two items - the cover is £83 whereas a new mattress costs £187
- More than half of both bathrooms and sluices did not have inappropriate items which is good. However, 42% of sluices (n=44) (Figure 4) and 36% of bathrooms (n=33) (Figure 5) did contain inappropriate items and again indicates a lack of knowledge of the role the environment has to play in transmission of infection
- It was good to see that the majority of sluices had appropriate cleaning products available to decontaminate commodes and other patient care equipment that might become contaminated. 78% of sluices (n=82) had appropriate cleaning items available

5. Recommendations

- To improve the education of all staff with regard to the role the environment can play in the transmission of infection.
- To advise all clinical areas to regularly check mattresses, pillows and chairs for any damage and to get them replaced promptly.
- To provide information to the clinical areas on the importance of not having inappropriate items in bathrooms and sluices. This can be done via an Infection Prevention briefing paper and communication at CLiC (Connecting Leaders in Care)
- To repeat the audit in 2019/20 to see if there are any improvements.

References

1. Health and Social Care Act 2008: code of practice on the prevention and control of infections. Department of Health (2008)
2. Loomes (1988) The Journal of Infection Control Nursing. Is it safe to lie down in hospital?

Acknowledgements and thanks to Halina Davidson and the Infection Prevention Team for completing the audits