Privacy curtains used in healthcare worldwide are a potential source of drug-resistant bacteria transmission to patients

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New research presented at this year’s European Congress of Clinical Microbiology & Infectious Diseases (ECCMID) in Amsterdam, Netherlands (13-16 April) shows that contamination of privacy curtains with multidrug-resistant organisms (MDROs) is a common problem and could be a source of disease transmission to patients.

Patient privacy curtains, used in most healthcare facilities in the world, are surfaces which are subjected to frequent touching but are only cleaned infrequently, and could potentially be a mode of disease transmission.

The study by Dr Lona Mody, Kristen Gibson and colleagues at the University of Michigan Medical Center, University Hospital, Ann Arbor, USA, looked at the prevalence of curtain contamination with MDROs in skilled nursing facility (SNF) rooms with a view to better inform curtain hygiene protocols. In the US, SNFs care for both post-acute care patients with an average length of stay of 22 days, as well as long-term residents who may be in the facility for up to 2 years. In this study, 95% of enrolled patients were short-stay admissions.

In the study, the research team conducted a prospective cohort study across six SNFs in southeast Michigan, obtaining bacterial culture samples from several sites on each patient’s body, as well as from high-touch surfaces in the patient’s room.

Samples were taken upon admission, and again after 14 days, 30 days, then monthly up to 6 months where possible. A total of 1521 samples from 625 rooms were obtained from the edges of privacy curtains where they are touched most often, and the researchers were particularly interested in any links between bacteria found on patients, and MDRO contamination on their privacy curtain at the same visit. The team also wanted to discover whether this contamination occurred intermittently, or was persistent for those patients with 6 months of follow-up.

The study found that a total of 334 (22%) cultures taken from privacy curtains tested positive for MDROs, with contamination rates varying from 11.9% to 28.5% across the different facilities. Of these cultures, 210 (13.8%) were contaminated with vancomycin-resistant enterococci (VRE); 94 (6.2%) with resistant gram-negative bacilli (R-GNB); and 74 (4.9%) with methicillin-resistant *Staphylococcus aureus* (MRSA). The team discovered no statistically significant difference in contamination rates between private and shared rooms.

The authors found that in 15.7% (238/1518) of sampling visits, patients and their privacy curtain were concurrently colonised with the same MDRO. They say: “Patient colonisation with MRSA and VRE were each associated with contamination of the bedside curtain”. And of the 210 sampling visits which found VRE contamination on the curtain, 57.6% of patients were also contaminated with VRE. Conversely, VRE was not detected on the curtain in
73.3% of sampling visits where VRE was not present on the patient. Where 6-month follow-up data were available, the study found that curtain contamination was often intermittent.

The researchers say that their findings show contamination of privacy curtains with MDROs is a common problem, and that patients are frequently contaminated with the same MDRO as their privacy curtain.

They conclude: “We were surprised to see that MDROs, especially VRE, shed by patients routinely contaminate their privacy curtains. These pathogens on privacy curtains often survive and have the potential to transfer to other surfaces and patients. As privacy curtains are used all over the world, it’s a global issue. Further studies are needed to determine conclusively whether contaminated privacy curtains are a source of MDRO transmission to patients.”

For full abstract click [here](#)

For full poster click [here](#)

Selected media coverage of this abstract:

**UK**  
The Guardian  

The Daily Mail  
[https://www.dailymail.co.uk/health/article-6912499/Hospital-privacy-curtains-breeding-grounds-deadly-superbugs.html](https://www.dailymail.co.uk/health/article-6912499/Hospital-privacy-curtains-breeding-grounds-deadly-superbugs.html)

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[https://www.ctvnews.ca/health/hospital-privacy-curtains-harbour-antibiotic-resistant-germs-study-1.4376465](https://www.ctvnews.ca/health/hospital-privacy-curtains-harbour-antibiotic-resistant-germs-study-1.4376465)

**USA - New York Post**  
[https://nypost.com/2019/04/15/superbug-germs-found-all-over-hospital-patients-hands-study/](https://nypost.com/2019/04/15/superbug-germs-found-all-over-hospital-patients-hands-study/)
Singapore

https://www.straitstimes.com/world/europe/privacy-‐curtains-‐at-‐hospitals-‐could-‐be-‐reservoir-‐of-‐deadly-‐bacteria-‐study